

DiexFit-Health and Fitness Management System



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DiexFit

Healthy you, Happy us

Faculty of Computing

Riphah International University, Islamabad

Dedication/Acknowledgment

I would like to express my gratitude to Allah Almighty, who made it possible to complete this project. Our special thanks to our course instructor without her guidance we could not have completed this project. We also acknowledged all the peers who worked hard for the completion of the project.

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Abstract

For developing a software, a Health and Fitness Management System, this documentation emerges as the guiding force for creating a software solution. This report unfolds through seven major artifacts, providing stakeholders with a compassionate understanding of the project. The Vision Document section not only outlines the purpose, scope, user profiles, product features, system risks, precedence, and priorities but also infuses empathy into each element. Risks are thoughtfully categorized, considering their impact on the human aspect of the system. The report integrates Use-Case Modeling to offer stakeholders a vivid portrayal of the system from the user's perspective, fostering a connection through a nuanced use-case diagram. The Requirement Traceability Matrix, a linchpin for the testing team, goes beyond technicalities, embracing the essence of user needs and expectations. The final section the Supplementary Specification Document, quality attributes and design constraints with an emphasis on enhancing the user experience. This includes insights into preferred software languages, development tools, this report ensures that the Health and Fitness Management System goes beyond many functionalities, striving to enhance the well-being and experience of every individual involved

Artifact-1

**Problem Statement/Project
Proposal**

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Final Project Proposal

Project Title: DiexFit-Health and Fitness Management System

Description: Health and fitness are crucial for good quality of life and reducing the risk of diseases. Healthy body has a healthy mind. Moreover, healthy diet increases the metabolism of the body. Regular exercise and physical activity are important for good health. Similarly, a nutritious diet plays a vital role in supporting health and fitness goals. Health and fitness comprise of a balanced diet, regular exercise and healthy mind.

This system provides the tracking of health matrices and different exercises to stay fit and smart along with your friends and family. Moreover, a check on the calories also helps to eat healthy food. The daily tracking of steps aid to improve physical activities. However, the system doesn't provide any fixed diet plan to improve health or one to one consultation with any exercise trainer to guide and teach exercises. Moreover, there isn't any way to connect with friends and family through video chat within the system.

The proposed system allows to consult a certified nutritionist to get a diet plan and improve eating habits and also facilitates to consult with a professional exercise trainer to stay fit and healthy. The system also facilitates with online video chat to connect with friends and family to stay fit together. The system also provides with daily motivational quotes that help to boost up health and fitness activities.

Literature Survey:

Existing Features Description:

ID	Feature Name	Description
F-1	Login	Use the system by entering name, valid email, phone number.
F-2	Profile	This feature allows to make profile by entering gender, age, height and weight.
F-3	Health Metrics	The system will display and measure different health metrics such as weight chart, B.P, heart rate, and body temperature through a sensor.

F-4	Activity Tracking	This feature enables to select multiple activities i.e. walking, running, cycling, hiking, and swimming.
F-5	Step Counter	This feature will count and display the number of steps taken by the fitness freaks in a day.
F-6	Sleep Score	This feature will enable to set the time for sleeping and waking. It will also enable to keep a record of number of hours slept.
F-7	Screen Time	This feature allows to check on the total number of hours of using screen in a day.
F-8	Stay Fit	This feature will provide the fitness freaks different type of exercises and also provide videos related to the particular exercises.
F-9	Intermediate Fasting	Fitness freaks can set a time and a reminder to eat after the selected time.
F-10	Workout Time	This feature will display total workout time of fitness freaks per day and per week.
F-11	Fitness Record	This feature helps keep record that which exercise is done on each day in a month.
F-12	Food Diary	The feature allows enter the food item eaten in a day and check the approximate calories intake.
F-13	Goal Set	The feature provides facility set a goal of each activity and exercise per day.
F-14	Achievements	This feature will display winning medals as an achievement.
F-15	Reminders	This feature will give reminder to fulfil a specific activity if it hasn't be performed for a while.
F-16	Language Selection	This feature will enable to select the language in which the fitness freaks want to use the system.
F-17	Fit Together	This feature allows to do exercise by connecting with the friends available through video chat and also share health and fitness records.
F-18	Reset Goal	The feature helps to reset and modify the set goals.
F-19	Privacy Protection	This feature sends a verification email to the fitness freaks if the user account is login in another device.

F-20	Units of Measurement	The feature allows to select the unit to measure height, weight and calories.
F-21	Discover Articles	This feature enables the fitness freaks to discover different articles related to health and fitness.
F-22	Theme	This feature enables to select theme of the system.
F-23	Review	The feature provides facility to share reviews and experience about using the system.
F-24	Quizzes	This feature asks multiple questions and suggests different vitamins intake and exercise.
F-25	Target Area	This feature allows to select the target area for exercise.
F-26	Challenges	This feature allows to accept and perform different fitness challenges.
F-27	BMI Calculator	This feature enables to calculate BMI of the body.
F-28	Exercise Level	This feature allows to select the level of exercises.
F-29	Meal Plan	This feature provides with the daily new diet plan to lose and gain weight
F-30	Barcode Scanner	This feature scans the bar code of food and displays the nutrition in it.
F-31	Ovulation	This feature maintains the history of the monthly cycles and also provides a notification when the cycle date is near to occur.

Systems and Feature Mapping:

System Details: -

System-ID	System Name	System Type
SYS-1	Samsung Health	Mobile Application
SYS-2	Google Fit	Mobile Application
SYS-3	My Fitness Pal	Mobile Application
SYS-4	My Health	Mobile Application
SYS-5	My Fitness Coach	Mobile Application
SYS-6	Healthily Me	Mobile Application
SYS-7	Eat This Much	Mobile Application
SYS-8	Weight Coach	Mobile Application
SYS-9	Health Pal	Mobile Application
SYS-10	www.healthline.com	Website
SYS-11	Period Tracker	Mobile Application

Proposed System Features:

ID	Feature Name	Description
F-32	Approach as	This feature allows select the mode of using the system i.e. either as a fitness freak or a nutritionist or an exercise trainer.
F-33	About	This feature will enable the nutritionist and exercise trainer to enter qualification, working experience and certifications as a professional.
F-34	Daily Motivation	This feature will send a motivation quote to fitness freaks that motivates user to improve their activity and exercise time.
F-35	Voice Processing	This feature will allow fitness freaks to search desired feature through voice.
F-36	Consult Nutritionist	This feature allows the fitness freaks to select and consult the nutritionist according to the fitness freak's preference and get a proper diet plan according to fitness freak's health. The fitness freaks will also be able to solve queries regarding health and fitness through online consultation.
F-37	Consult Exercise Trainer	This feature allows the fitness freaks to select an online trainer and learn different exercises through interactive session.
F-38	V Chat	This feature allows the fitness freaks, nutritionists, and exercise trainers to interact with each other through a video call.
F-39	Payment	The fitness freak will be able to select a payment method to pay to nutritionist or exercise trainer.

Revision History

Name	Date	Reason For Changes	Version
Group A	19-11-23	Initial Proposal	1.0
Group A	26-11-23	Addition of a new feature and template justification	1.1
Group A	4-12- 23	Alignment of the table	1.2

Artifact-2

Vision Document

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Vision

1. Introduction:

This vision document is to give an outlook of the proposed system. It gives the new functionalities, features, facilities and the goal of the new system. It contains further supporting details like purpose, scope, definitions, acronyms, abbreviations, references and overview.

1.1. Purpose

The purpose of this document is to develop a common understanding and means of communication between stakeholders like project manager, project team, marketing team. This will help to thoroughly understand the Health and Fitness Management System which is to be developed. The description of how this purposed system facilitates and fulfil requirements is mentioned in use case and system specification document.[1] This will serve as basis for completely understanding the proposed system, as an initiative for the project approval, provide more detailed understanding of the system at a high level, gather the feedback from the stakeholders and also a means to develop the scope and attributes of the system.

1.2. Scope

This vision document is for the Health and Fitness Management System to be developed. This system is for the management and control of health and fitness of the fitness freaks that helps them to keep a check and balance of their health matrices, provide them with different exercise accompanied by a healthy diet chart provider. This is further supported by an online consultation with the nutritionists and exercise trainers through video chat that provide more assistance.

1.3. Definitions, Acronyms and Abbreviations

1.3.1. Acronyms

HFMS --- Health and Fitness Management System
macOS --- Macintosh Operating Systems
OS --- Operating Systems
SQL --- Structured Query Language
JS --- Java Script
webOS—Web Operating System
BMI – Body Mass Index
BP – Blood Pressure

1.3.2. Definitions

Microsoft windows: A group of several proprietary graphical operating system families.

Linux: A family of open-source Unix-like operating systems based on the Linux kernel.

webOS: An operating system that runs on smart devices.

IBM OS/2: A series of computer operating systems, initially created by Microsoft and IBM.

SQL: A programming language that is used in relational database or data stream management systems.

JS: An object-oriented programming language used by programmers to make web pages attractive.

Ruby: An interpreted high-level general-purpose programming language.

1.4. References

1. Modern Analyst, VISION DOCUMENT, 4-3-2013
Modern Analyst. (2013, April 3). VISION DOCUMENT. Modern Analyst.
2. Creating Vision for Requirements elicitation
Business Analyst Mentor. (n.d.). Product Vision

1.5. Overview

This vision document contains all the goals of the Health and Fitness Management System. This system provides additional features that further help in maintain the health and fitness of fitness freaks. This system can be easily installed on all the android devices and facilitates efficiently.

2. Positioning

2.1 Problem Statement for Fitness Freak

The problem of	Lack of personalized guidance and one to one consultation with any nutritionist or exercise trainer
Affects	Fitness freak
the impact of which is	Struggle to maintain healthy eating habits and creating a weekly plan of performing exercises.
a successful solution would be	The updated system will provide guidance and motivational support through online consultation with nutritionists and exercise trainers making it easier for fitness freaks to create healthy eating and exercise routines. Fitness freaks will easily maintain their health and fitness with help of experienced professionals.

2.2 Problem Statement for Manager

The problem of	No proper management of records of each fitness freak.
Affects	Manager
the impact of which is	All records are not managed properly.
a successful solution would be	The updated system will increase the accuracy by transferring the diet records to nutritionists and fitness records to exercise trainers. This system will also help the manager to keep the records of other fitness freaks in a sufficient way by reducing the workload.

2.3 Product Position Statement

For	Manager, Fitness freak, Nutritionist, Exercise Trainer
Who	Connects with trainers and nutritionists through online consultation, provide guidance, daily motivations, give reviews, set goals and manage records
The Health and Fitness System	Is a software product.
That	Provides the ability for online consultation with a trainer, or nutritionist to keep your health fit. It also tracks your daily routine activities and gives motivational support every day
Unlike	The existing system doesn't manage records properly and also doesn't provide online consultations with trainers and nutritionists for expert guidance. The currently available system does not even provide an environment for video connections.
Our product	Allows to select an exercise trainer who suggests different exercises, and personalized guidance, monitors progress, and talks in real-time to make remote training work better. Nutritionists provide diet plans, track nutrition, and give advice online, making it easier for the fitness freaks to maintain healthy eating habits. The manager will maintain profiles of the fitness freaks. It will send a motivational quote to fitness freaks that motivates them to improve their activity and exercise time.

3. Stakeholder and User Descriptions

Health and Fitness Management System stakeholders will be mentioned. The system has a total of 9 stakeholders, including 4 system users. The following is a detailed analysis of these stakeholders.

3.1 Stakeholder Summary

Name	Description	Responsibilities
System Analyst	This stakeholder coordinates with other stakeholders to fulfil their requirements.	Heads and coordinates modeling of use cases and requirements gathering by representing system functionality. For example, you can identify which actors are present and what use case problems they have when interacting with the system.
Requirements Specifier	Stakeholders who work with analysts to precisely translate requests into design requirements.	Explains different aspects of system functionality, both functional and non-functional, based on an understanding of user requirements.
Technical Reviewer	Look after the growth cycle of the system requires through regular engagement.	The reviewer provides timely and relevant feedback on the project model. This role is included in the review category that handles technical reviews of sample projects.

Software Architecture	Key stakeholder controlling the development of software systems	Responsible for the software architecture, including key technical decisions that constrain the overall design and implementation of the project.
Project Manager	Key stakeholders mainly responsible who guarantees the development of the system.	Software project managers are responsible for planning, scheduling, budgeting, executing, and delivering software projects. Ensures successful completion of software projects and supervises people involved in the project.

3.2 User Summary

Name	Description	Responsibilities	Stakeholder
Fitness Freak	They are the primary users of the system.	Fitness freaks will measure their health matrices. They will also be able to have a guided diet plan from a nutritionist and can view and perform different exercises to stay fit. They can also have proper training through consultation with exercise trainers and can also calculate BMI.	Self-representative
Manager	Proposed system's end users	The manager's responsibilities are to track or monitor the fitness progress, collaborate with a trainer or nutritionist. The manager also maintains the fitness freak personal information, assuring the security of the system.	Self-representative
Trainer	They are the secondary users of the system	The responsibilities of a trainer are to teach exercises through online consultation. It provides real-time guidance. The trainer provides motivational support.	Self-representative
Nutritionist	Proposed system's secondary users	The responsibilities of a nutritionist provide a diet plan based on fitness freak's health and resolve queries related to health and fitness. Collaborate with the fitness freak through video call.	Self-representative

3.3 User Environment

DiexFit users (System Manager, Fitness Freak, Nutritionists, Exercise Trainer) are the accessors of the system who can use the system with a good internet connection. The system manager keeps the control of maintaining profile, ensuring security). The system can be used in windows, android, IBM OS/2, webOS and Ruby is used for implementation .and system is designed efficiently using JS. FHMS can work on smartphones, smartwatches and web as well.

3.4 Stakeholder Profiles

3.4.1 System Analyst

Representative	Hanzla Alvi
Description	They gather data from the other stakeholders, suggests ways of improvements, interprets information to other stakeholders
Type	The systems analyst is consultant, prioritize tasks based on project goals and deliverables
Responsibilities	Analyze and interpret stakeholder requirements, ensure that the proposed solutions align with the overall system architecture
Success Criteria	This Involves delivering a solution that meets the needs of users, and enhances the overall effectiveness of the health and fitness management system.
Involvement	Stakeholders and the development team, ensuring that the proposed features are well-defined and successfully implemented in the health and fitness management system.
Deliverables	None
Comments / Issues	None

3.4.2 Requirements Specifier

Representative	Aroosa Khan
Description	Involves defining, documenting, and communicating the functional and non-functional requirements that guide the development process
Type	System specifiers interpret and transfer the requirements into design documents by working with the system analysts.
Responsibilities	Performance Requirements Specifier describes one or more aspects of system functionality, including functional and non-functional, by understanding the user needs.
Success Criteria	Success criteria is fulfilled and the specified requirements align closely with the expectations and needs of stakeholders.
Involvement	Employ various techniques, such as interviews, workshops, and surveys. Actively engage with stakeholders.
Deliverables	None
Comments / Issues	None

3.4.3 Technical Reviewer

Representative	Ayesha Butt
Description	Examine design documents, technical specifications, and any associated documentation related to the proposed features.
Type	They ensure that the features adhere to architectural principles, they verify that testing plans cover functional and non-functional requirements.

Responsibilities	They check the suitability of the software system for its intended purpose and suggests alternative approaches
Success Criteria	Success criteria is achieved when technical reviewer reviews the project and provide opinions and suggestions on time and approve the project.
Involvement	The role of a technical reviewer is critical for ensuring the technical integrity, quality, and alignment of software system with system requirements.
Deliverables	None
Comments / Issues	None

3.4.4 Software Architecture

Representative	Ayesha Asad
Description	Key stakeholder in shaping the software System.
Type	Depends on factors such as the system's complexity, development team expertise, and the specific goals of the proposed features.
Responsibilities	provide a structured and well-designed software that ensures the effective implementation of those features, guiding the development process and influencing the overall performance and usability of the system.
Success Criteria	Positive user experiences with proposed features, as reflected in user satisfaction surveys, low error rates.
Involvement	Architects are responsible for selecting the appropriate technologies that align with the implementation of proposed
Deliverables	None
Comments / Issues	None

3.4.5. Project Manager

Representative	Alishba Malik
Description	The Project Manager is responsible for ensuring that the project runs smoothly, meets its objectives, and aligns with the overall goals of the health and fitness management system.
Type	The project manager efficiently assigns tasks to different stakeholders, measures the overall performance of the team and provides guidance throughout the development process
Responsibilities	Utilize proposed features for creating customized workout plans. Assessments using proposed digital tools to understand clients' fitness levels, goals, and health history.
Success Criteria	Gather feedback from clients to their satisfaction with the guidance provided, the effectiveness of workout plans.
Involvement	Project manager designs and implements an efficient plan to initiate, work on and successfully close the projects. He decides and maintains the scope of the project.
Deliverables	None
Comments / Issues	None

3.5 User Profiles

3.5.1 Fitness Freak

Representative	Miss. Emma Johns
Description	specific individual, a fitness conscious
Type	This is a lifestyle enthusiast habit of daily routine, good approach to health and wellness.
Responsibilities	Utilizes personal fitness, nutritious diet, exercise, health Monitoring.
Success Criteria	Successfully reaching individual fitness milestones and goals. Maintaining a consistent routine of regular exercise and balanced nutrition. Regularly assessing measurable health metrics
Involvement	Actively motivating and inspiring others within fitness and health. Sharing importance of balanced lifestyle and regular exercise. Sharing Positive Content on social media plate form about fitness.
Deliverables	None
Comments / Issues	Positive Feedback, Supportive Comment

3.5.2 System Manager

Representative	Mr. Hamza Sheikh
Description	The System Manager in the health and fitness system is a key leadership position responsible for overseeing and optimizing the technological and operational aspects of the organization. This role involves managing information systems, software applications, and processes to enhance efficiency, data accuracy, and overall performance within the health and fitness domain.
Type	Responsible for aligning technology initiatives with the overall goals and vision of the health and fitness organizations.
Responsibilities	Continuously optimize existing systems to improve performance. Collaborate with stakeholders to understand user needs and expectations. It also leads system upgrades, Risk management.
Success Criteria	Efficient System functionality, privacy regulations, user Satisfaction.
Involvement	The involvement of a System Manager in the health and fitness system is extensive, operations, and strategic planning etc.,
Deliverables	None
Comments / Issues	None

3.5.3 Exercise Trainer

Representative	Mr. William Charles
Description	Exercise Trainer in the health and fitness system is a fitness professional responsible for designing and implementing exercise programs, providing guidance on proper techniques, and motivating individuals to achieve their fitness goals.
Type	Designs personalized exercise programs based on the unique goals, fitness levels, and for each client.
Responsibilities	Client Consultations, Education on Health and Fitness.

Success Criteria	Success is measured by the extent to which clients achieve their fitness goals, whether it's weight loss, muscle gain, improved endurance, or other objectives.
Involvement	Helping individuals achieve their fitness goals through exercise and physical activity. trainer works with the client to set realistic and achievable fitness goals. include weight loss, muscle gain, improved health,
Deliverables	None
Comments / Issues	None

3.5.4 Nutritionist

Representative	Miss Ayzal Fatima
Description	A nutritionist plays a critical role in guiding individuals toward optimal nutritional choices to support their health and fitness goals.
Type	Clinical nutritionist, weight management nutritionist
Responsibilities	Digital meal planning feature that allows nutritionists to create and share interactive, personalized meal plans with clients.
Success Criteria	Positive feedback and satisfaction from clients, effective communication between nutritionists and clients.
Involvement	Utilize communication features to engage with clients through the system.
Deliverables	Engage effectively with clients through the system's communication features.
Comments / Issues	Some nutritionists may face accessibility challenges,

3.6 Key Stakeholder or User Needs

Need	Priority	Concerns	Current Solution	Proposed Solutions
Authorized Access	High	Every person is not allowed to use the system.	None	Fitness freaks, nutritionists and exercise trainers access the system after entering the authorized email and password.
Graphical User Interface	High	Difficulty of using different features i.e. mentor, sustenance, criterion etc.	Different icons are used to explain the features.	Provides a user-friendly interface by using self-explanatory names and icons.
Privacy and Protection	High	Data of the fitness freaks, nutritionists and trainers is protected from being damaged or altered.	None	Different methods and algorithms should be used to protect data from being damaged or altered.

Modification	Moderate	The system is being improved according to the fitness freak's requirements.	Reviews are conducted by the account holders but some fitness freaks are not willing to review.	Closed ended questions or a short survey should be conducted online. It will take less time and generate accurate results.
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3.7 Alternatives and Competition

Alternatives and competitors of DiexFit are following:

3.7.1 *Samsung Health*

This app helps fitness freak to maintain his various exercises and water intake record also display the record on the screen. It also allows to add food and find the approximate calories of that particular food item. It enables the fitness freak to share steps count history with friend using the app. This app is only for Android.

3.7.2 *Google Fit*

Google fit is a fitness related app which keep record of different health metrics i.e.; heart rate, oxygen level, blood glucose etc. and track and keep the record activities like walking and cycling. Record of calories consumption, water level, sleep and ovulation also be maintained on it. This app is for Android and IO`s devices.

3.7.3 *My Fitness Pal*

My fitness pal facilitates the fitness freak to maintain diet and get customized plan for calories intake. It also counts the steps taken by the fitness freak with respect to the calories burn. It scans the bar code on the products and provide nutritional information. It also helps to schedule intermediate fasting duration. This app is for Android and IO`s.

3.7.4 *Eat This Much*

This is a meal planner app where fitness freak can get different meal plans with respect to nutrition facts and fitness freak requirements i.e. fitness freak wants to lose fat, lose weight, gain weight, manage weight etc. It also keeps the record of calories intake in a day. This app is only for Android products.

3.7.5 *Weight Coach*

This app provides variety of exercises for target area by ensuring the level of the fitness freak. Different videos of exercises are also available for fitness freak. This app maintain the fitness record i.e. tracks workout time, steps taken and calories burned.

4 Product Overview

This section will consist of three subsections i.e. Product perspective, Product functions, Assumptions and dependencies.

4.7 Product Perspective

The proposed system HFMS will make virtual fitness freak, nutritionists and exercise trainer contact possible. The access of nutritionist and exercise trainer will be enlarging by using our system. Our system keeps the record of the activities performed by the fitness freak and the suggestion by the exercise trainer and nutritionist for better experience. It will save much time. The system along its major parts and their relationship is illustrated by the following block diagram (Diagram 4.1):

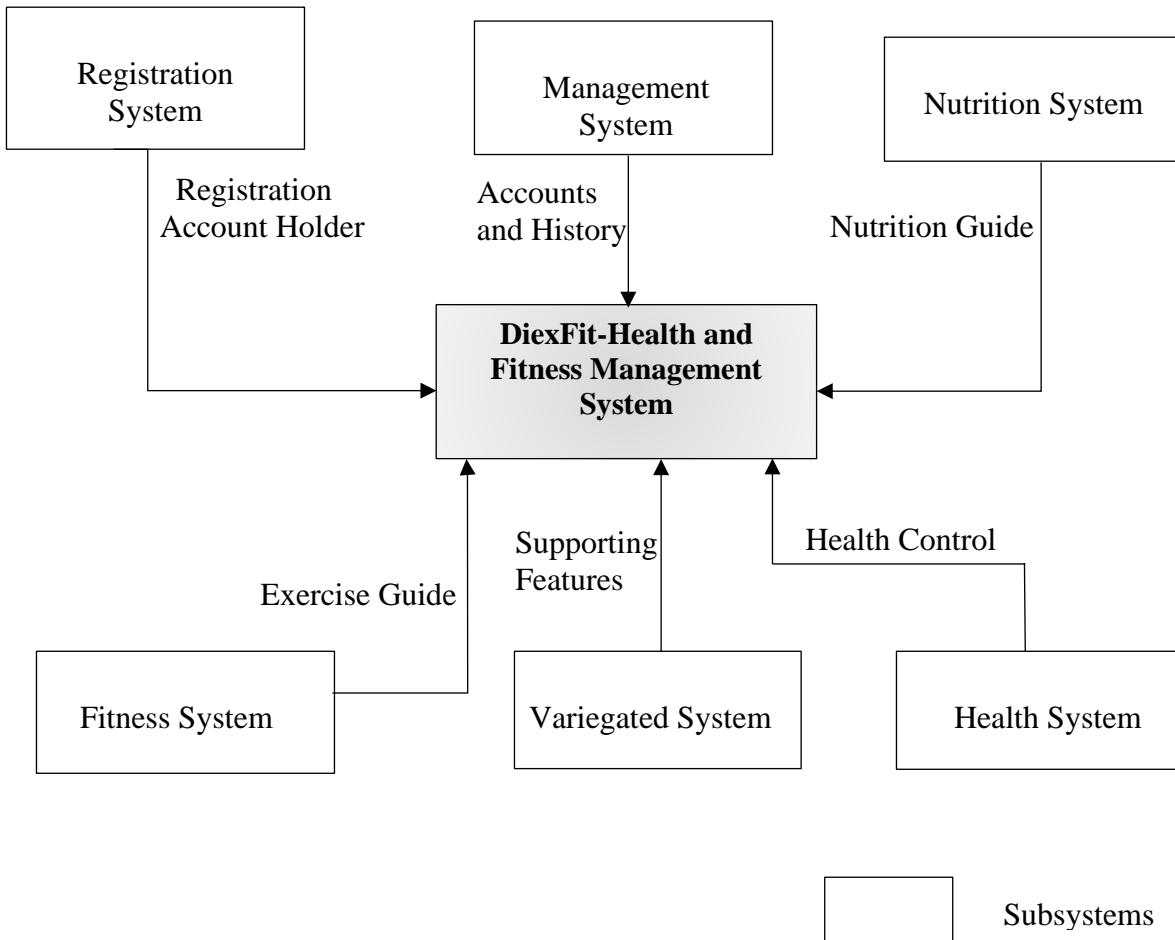


Figure 1 Block Diagram that shows the major components of the system and their relationship

4.8 Summary of Capabilities

Table 4-1 Account Holder Support System

Account Holder Benefit	Supporting Features
High data security.	Our system is secure as it provides access through a unique and valid login credentials and even sends a verification email if someone else tries to access the system on another device with already saved credentials.
Efficient service.	The proposed system provides virtual consultation with the nutritionists and exercise trainers for guidance and health maintenance.
Increased system efficiency.	This online system is less time consuming and has less chances of errors due to advanced management and improved technology.
Easy usability	The system to be made is easy to use because of the user-friendly interfaces and availability of system guide.

4.9 Assumptions and Dependencies

Following is a list of assumptions and dependencies of the system to be developed i.e. DiexFit-Health and Fitness Management System.

- For the efficient usage, it is assumed that the user is familiar with modern technology and working of advanced devices.
- It is assumed that the users will possess decent internet connections for the smooth usage of the system.
- For handling and monitoring the system efficiently, the system manger is assumed to be enough qualified to know basic computer knowledge.
- Users are expected to have a proper diploma or certifications and a work experience of minimum one year to be appointed as nutritionists and exercise trainers.
- User is assumed to understand the language of the system i.e. English.
- It is assumed that the database system has enough amount of storage space.
- The server is required to support the intended user load and back up data.

5 Product Features

- 5.1 Fitness freak can login to the system
- 5.2 Add profile of fitness freak
- 5.3 Measure different health metrics
- 5.4 Select different activities i.e. walking, running
- 5.5 Count the number of steps taken in a day
- 5.6 Keep a record of sleeping hours
- 5.7 Measure the hours of screen usage in a day
- 5.8 See different available exercises
- 5.9 Set time and reminder for intermediate fasting
- 5.10 View workout time in a day
- 5.11 Keep record of exercises done in a month or day
- 5.12 Check approximated calories in the food
- 5.13 Set goals for different activities
- 5.14 Display achievement medals if goals are achieved
- 5.15 Give reminders to perform activities
- 5.16 Select language for system usage
- 5.17 Connect with pals
- 5.18 Reset goals
- 5.19 Send verification email
- 5.20 Select unit of measurements
- 5.21 Read different articles on health and fitness
- 5.22 Select the theme of the system
- 5.23 Provide reviews and suggestions
- 5.24 Conduct quizzes related to health and fitness
- 5.25 Select target area for exercise
- 5.26 Accept different health and fitness challenges
- 5.27 Calculate BMI
- 5.28 Select level for exercise
- 5.29 Get a daily meal plan
- 5.30 Scan the barcode of food and measure calories
- 5.31 Maintain the history of monthly cycles
- 5.32 Approach system as a nutritionist, fitness freak or exercise trainer

6 Constraints

Databases of fitness freak, nutritionist and exercise trainer is only accessible by the system manager, if he has an authorized access. System manager's data is only accessible by him. Fitness freak can use system only if he has an authorized access. Every user must enter into the system with different phone number. While login to the application, if user enter invalid OTP code for several times, System will alert the user to enter valid code. After having 4 attempts, system will let the user to login again after 3 hours.

7 Quality Ranges

7.1 Security

The system provides security to the system. Only authorized account holder can access the system. System will facilitate only those users that has sign up/login with his/her personal phone number.

7.2 Availability

The system is online 7 days a week and 365 days a year.

7.3 Usability

The proposed system is very easy to use. System is user friendly. System will respond with 3 seconds of account holder's request.

7.4 Efficiency

The system is efficient. The professional nutritionists and exercise provide expert guidance to fitness freaks to maintain and improve their health and fitness.

8 Precedence and Priority

Features	Priority
F-1: Fitness freak can login to the system F-2: Fitness freak can make profile. F-3: Fitness freak can calculate health metrics F-8: Provide different exercises and video to stay fit F-12: Calculate food calories F-16: Select language to use the system F-19: Privacy protection from unauthorized access F-20: Units of measurements of health metrics F-27: Calculate BMI of the body F-28: Select exercise level F-29: Provide meal plan F-30: Scan barcode to display nutrition in the item F-39: Select Payment method F-32 Approach system as a nutritionist, fitness freak or exercise trainer	Critical

<p>F-4: Track activity</p> <p>F-11: Keep fitness record</p> <p>F-10: View workout time</p> <p>F-5: Count daily numbers of steps taken</p> <p>F-6: Set Sleep score</p> <p>F-7: Check screen time</p> <p>F-25: Select target area of exercise</p> <p>F-26: Accept different fitness challenges</p> <p>F-30: Maintain history of ovulation</p> <p>F-36: Consult Nutritionist</p> <p>F-37: Consult Exercise trainer</p> <p>F-38: Interact with the each other through V Chat</p> <p>F-33: Tell about qualification as a professional</p>	Important
<p>F-23: Give review</p> <p>F-15: Give reminder of specific activity</p> <p>F-17: Fit together</p> <p>F-18: Reset goal</p> <p>F-13: Set goal of each activity perform</p> <p>F-14: Display achievements</p> <p>F-21: Discover articles related to health and fitness</p> <p>F-22: Select theme of the system</p> <p>F-34: Send daily motivation quote</p> <p>F-35: Allow voice processing</p> <p>F-9: Select intermediate fasting duration.</p> <p>F-24: Conduct quizzes to suggest exercises and vitamins</p>	Useful

9.Documentation Requirements

9.1. User Manual

The user manual will describe the functionalities of the system from the system manager as well as the fitness freak's , nutritionist's and trainer's point of view. The manual includes:

Sign up/ Login.

Video consultation.

Calculate BMI.

Select activities and set goals

Access all features

9.2. Online Help

It would be used to facilitate user queries as online help. It would cover all the topics that has been mentioned in user manual.

9.3. Installation Guides, Configuration, and Read Me File

It includes helpful reference guide and interactive tutorial. It helps the user that is going to be build. It also includes road map of our management system. It also guides the user how it can be installed in your pc or smart phones and smart devices.

A Feature Attributes

A.1 Status

Proposed	F-32: Approach as F-33: About F-34: Daily Motivation F-35: Voice processing F-36: Consult Nutritionist F-37: Consult Exercise Trainer F-38: V Chat F-39: Payment
Approved	F-1: Login F-2: Fitness freak, nutritionist and exercise trainer can make profile F-3: Health metrics F-32: Approach as fitness freak or nutritionist or trainer F-33: Tell qualification as a professional F-13 Goal set for different activities F-17 Stay fit F-19 Privacy Protection F-4 Activity Tracking F-8 Stay Fit
Incorporated	All features of DiexFit-Health and Fitness Management System

A.2 Benefit

Critical	F-1: Login F-2: Profile F-3: Health Metrics F-4: Activity Tracking F-10: Workout Time F-11: Fitness Record F-12: Food Diary F-13: Goal Set F-14: Achievements F-15: Reminders
Important	F-6: Sleep Score F-7: Screen Time F-8: Stay Fit F-17: Fit Together F-18: Reset Goal F-28: Exercise Level F-29: Meal Plan F-34: Daily Motivation F-36: Consult Nutritionist F-37: Consult Exercise Trainer
Useful	F-5: Step Counter F-9: Workout Time (Possible duplication, please clarify) F-16: Language Selection F-19: Privacy Protection F-20: Units of Measurement F-21: Discover Articles F-22: Theme F-23: Review F-24: Quizzes F-25: Target Area F-26: Challenges F-27: BMI Calculator F-30: Barcode Scanner F-32: Approach as F-33: About

	F-35: Voice processing F-38: V Chat F-39: Payment F-31: Ovulation
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A.3 Effort

High	F-1: Login F-2: Profile F-3: Health Metrics F-4: Activity Tracking F-10: Workout Time F-12: Food Diary F-13: Goal Set F-14: Achievements F-15: Reminders F-18: Reset Goal F-22: Theme F-25: Target Area F-30: Barcode Scanner F-33: Daily Motivation F-36: Consult Nutritionist F-37: Consult Exercise Trainer F-38: V Chat F-39: Payment F-35: Voice processing F-19: Privacy Protection
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Medium	F-5: Step Counter F-6: Sleep Score F-7: Screen Time F-8: Stay Fit F-16: Language Selection F-20: Units of Measurement F-13: Goal Set F-14: Achievements F-15: Reminders F-18: Reset Goal F-23: Review F-26: Challenges F-32: Approach F-33: About
Low	F-9: Workout Time F-31: Ovulation F-17: Fit Together F-21: Discover Articles F-11: Fitness Record F-24: Quizzes F-27: BMI Calculator F-28: Exercise Level F-29: Meal Plan

A.4 Risk

We categorized the risk as high, medium as low. It is divided on the basis of their dependencies.

High	F-1: Login F-2: Profile F-3: Health Metrics F-4: Activity Tracking F-12: Food Diary F-25: Target Area F-30: Barcode Scanner F-32: Approach As F-38: V Chat F-39: Payment F-35: Voice processing F-19: Privacy Protection F-36: Consult Nutritionist F-37: Consult Exercise Trainer
Medium	F-5: Step Counter F-7: Screen Time F-8: Stay Fit F-10: Workout Time F-11: Fitness Record F-18: Reset Goal F-20: Units of Measurement F-27: BMI Calculator F-13: Goal Set F-15: Reminders F-22: Theme F-26: Challenges

Low	F-6: Sleep Score F-9: Workout Time F-14: Achievements F-31: Ovulation F-16: Language Selection F-24: Quizzes F-17: Fit Together F-21: Discover Articles F-33: Daily Motivation F-28: Exercise Level F-29: Meal Plan F-33: About F-23: Review
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A.5 Stability

Stability of system is dependent on these features:

- F-1: Login
- F-2: Profile
- F-3: Health Metrics
- F-4: Activity Tracking.
- F-19: Privacy Protection
- F-11: Fitness Record.
- F-12: Food Diary.
- F-36: Consult Nutritionist
- F-37: Consult Exercise Trainer
- F-15: Reminders.
- F-20: Units of Measurement.
- F-30: Barcode Scanner
- F-33: About.

By changing any of these features will mainly affect the stability of system.

A.6 Target Release

We will release the critical features which are critical to the system first like, F1, F2, F33, F32, F3, F8, F36, F37, F25 and F37 in the first version of the document. Then F5, F6, F7, F8, F13, F14, F15, F28, F30, and F34 in the second one and so others in the next versions.

A.7 Assigned To

Features ID	Members
F1, F2, F33, F32, F3, F8, F36, F37, F25, F27	Alishba Malik
F4, F5, F33, F10, F13, F12, F14, F15, F28, F34	Aroosa Khan
F9, F6, F7, F11, F16, F18, F19, F25, F28, F29	Ayesha Asad
F17, F22, F26, F30, F35, F38, F39, F30	Hanzla Alvi
F20, F21, F23, F24, F31, F34	Ayesha Butt

A.8 Reason

The health and fitness app features are carefully selected to meet the needs and expectations of various stakeholders, including users, health professionals and investors. The main goal of this system is to provide an automated solution for health and fitness tracking that aims to replace existing manual processes. By automating these processes, the app saves users time and effort by efficiently managing health metrics, activity tracking, and goal setting. This automation improves the user experience, simplifies data collection and analysis, and ultimately promotes a more efficient and convenient approach to health and fitness management.

Artifact-3

Use Case Modeling

Health and Fitness Management System



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UC – 01 Login

Section	Content
Designation	UC-01
Name	Login
Authors	Mr. Dan Wilton
Priority	Importance for system: high Technological risk: high
Criticality	High
Source	Client Requirement
Responsible	Development team leader
Description	It involves process of manager, fitness freak, nutritionist and exercise trainer logging into health and fitness system
Trigger event	The manager, fitness freak, nutritionist and exercise trainer want to use the health and fitness management system.
Actors	Manager, fitness freak, nutritionist and exercise trainer
Precondition	The manager, fitness freak, nutritionist and exercise trainer must have valid email account.
Post-condition	The manager, fitness freak, nutritionist and exercise trainer are logged into the system.
Result	It provides the access of the system to the manager, fitness freak, nutritionist and exercise trainer.
Main Scenario	<ol style="list-style-type: none"> 1. The system requests the manager, fitness freak, nutritionist and exercise trainer to enter valid credentials (i.e., Email and password). 2. The manager, fitness freak, nutritionist and exercise trainer enter the credentials. 3. The system asks to save the information. 4. The manager, fitness freak, nutritionist and exercise trainer save the credentials to access the system.
Alternative Scenario	1a: If manager, fitness freak, nutritionist and exercise trainer forget his\her email account, they can login through phone number.
Exception Scenario	If something went wrong with database, the system will say Sorry, ask the manager, fitness freak, nutritionist and exercise trainer to try later.
Quality Requirements	Security Usability, Performance

UC-02 Make Profile

Section	Content
Designation	UC-02
Name	Make Profile
Authors	Miss Martha David
Priority	Importance for system success: high Technological risk: high
Criticality	High
Source	William Richard (domain expert)
Responsible	Daniel Smith
Description	The manager, fitness freak, nutritionist and exercise trainer can make their profile to use the system.
Trigger event	The manager, fitness freak, nutritionist and exercise trainer want to use the system.
Actors	Fitness freak, nutritionist, manager and exercise trainer
Pre-condition	Fitness freak, nutritionist, manager and exercise trainer login to the system
Post-condition	Fitness freak, nutritionist, manager and exercise trainer can use the system
Result	Profile is created
Main Scenario	<ol style="list-style-type: none"> 1. The system asks to add the name. 2. The fitness freak, nutritionist, manager and exercise trainer enter the name. 3. The system asks to enter a strong password. 4. The fitness freak, manager nutritionist or exercise trainer enters a strong password. 5. The system asks to upload profile picture. 6. The fitness freak, nutritionist, manager and exercise trainer enter the picture. 7. The system asks to provide weight, height and age if the system is logged in as fitness freak. 8. The fitness freak provides the requested credentials. 9. The system asks to provide professional details if the system is logged in as nutritionist, trainer or manager. 10. The nutritionist, trainer and manager provide the details. 11. The system shows when the profile is completed.
Alternative Scenario	3a. Pin can be used instead of password. 5a. Profile pictures can be skipped.
Exception Scenario	The fitness freak, nutritionist or exercise trainer and manager doesn't want to use the system.
Qualities	Usability, Scalability

UC – 03 Tell About

Section	Content
Designation	UC-03
Name	Tell About
Authors	Mr. William Charles, Miss Ariana Leo
Priority	Importance for system success: high Technological risk: low
Criticality	High
Source	Document
Responsible	Mr. William Charles and Miss Ariana Leo
Description	Nutritionist and trainer enters their professional information such as qualifications, working experience, and certifications.
Trigger event	“Nutritionist” or “Trainer” login into the system
Actors	Nutritionist, Trainer
Precondition	Nutritionist and trainer is logged into the system and have made their profile.
Postcondition	The professional details of the nutritionists and trainer is saved into the system.
Result	Fitness freak can select the nutritionist or trainer based upon their professionalism.
Main Scenario	<ol style="list-style-type: none"> 1. The system asks the nutritionists and the trainer to tell about their professional details. 2. The nutritionists and trainers write their qualification and work experience in detail. 3. The system asks if the nutritionist and the trainer to add links and photos of certifications. 4. The nutritionists and trainers upload the photos and links of certifications. 5. The system asks the nutritionists and trainers to save the information. 6. The nutritionists and trainers select save the information.
Alternative Scenario	3a: The system lets the nutritionists and trainers to skip adding photos and links and asks to save the information.
Exception Scenario	The nutritionist and trainer doesn't provide their qualification, certifications and working experience.
Qualities	Usability, Reliability

UC- 04 Keep Fast

Section	Content
Designation	UC-04
Name	Keep Fast
Authors	Mr. Eric Elif
Priority	Importance for system success: low Technological risk: low
Criticality	Low
Source	Miss Martha David (Requirements Specifier)
Responsible	Mr. Harry Jack
Description	Fitness freak can set days, time and reminders to keep fast.
Trigger event	Fitness freak wishes to keep intermediate fast.
Actors	Fitness freak
Precondition	Fitness freak is logged into the system.
Postcondition	The details of intermediate fasting are saved in the system.
Result	The fitness freak can easily fast on the selected days.
Main Scenario	<ol style="list-style-type: none"> 1. The system requests the fitness freak to select days to keep fast. 2. Fitness freak select the days. 3. The system requests the fitness freak to select time of fasting. 4. Fitness freak select the timings. 5. The system requests the fitness freak to enable reminder to remind a day before to keep fast. 6. The fitness freaks enable the reminder. 7. The system requests the fitness freak to save entered data. 8. Fitness freak select save.
Alternative Scenario	3a. If the fitness freak doesn't want to select days he\she can leave it empty. 5a. If the fitness freak doesn't want to enable notification, he\ she can skip.
Exception Scenario	The fitness freak does not want to keep fast.
Quality	Useability

UC – 05 Maintain Privacy

Section	Content
Designation	UC-05
Name	Maintain privacy
Authors	Mr. Eric Elif
Priority	Importance for system success: high Technological risk: high
Criticality	High
Source	Mr. Watmis
Responsible	Miss. Eva John
Description	The information of manager, fitness freak, nutritionist and exercise trainer can be secured or protected from unauthorized access.
Trigger event	The manager, fitness freak, nutritionist and exercise trainer logs into another device such as a mobile laptop and tablet.
Actors	Manager, fitness freak, nutritionist and exercise trainer
Precondition	The manager, fitness freak, nutritionist and exercise trainer must already be logged in into the system and have an account.
Postcondition	The information of manager, fitness freak, nutritionist and exercise trainer is protected from unauthorized access.
Result	Manager, fitness freak, nutritionist and exercise trainer's data or information is secured.
Main Scenario	<ol style="list-style-type: none"> 1. The system asks the manager, fitness freak, nutritionist and exercise trainer to login to the system by entering email and password. 2. The manager, fitness freak, nutritionist and exercise trainer enter the information. 3. The system checks if there is already an account if the entered credentials. 4. If already there is an account, the system sends a verification code to the given email. 5. The manager, fitness freak, nutritionist and exercise trainer check their email and note the code. 6. The system asks to enter the verification code. 7. Manager, fitness freak, nutritionist and exercise trainer enter the code. 8. The system verifies if the entered code is correct. 9. The system allows the manager, fitness freak, nutritionist and exercise trainer to login to the system.

Alternative Scenario	1a: If the manager, fitness freak, nutritionist and exercise trainer forget his\her login credentials, he\she can reset the password through email verification code. 4a: If manager, fitness freak, nutritionist and exercise trainer doesn't receive a verification code within 60 seconds, they can request the system to resend code.
Exception Scenario	If the manager, fitness freak, nutritionist and exercise trainer enter incorrect verification code, they can't login to the system for 1 hour.
Qualities	Security, Data integrity, Portability

UC – 06 Provide Review

Section	Content
Designation	UC-06
Name	Provide Review
Authors	Miss. Emma Johns
Priority	Importance for system success: high Technological risk: low
Criticality	Medium
Source	Document
Responsible	Mr. Johns Smith
Description	Fitness freak, nutritionist and exercise trainer share their reviews about the system.
Trigger event	The fitness freak, nutritionist and exercise trainer want to share their experience and opinions about the system.
Actors	Fitness freak, nutritionist and exercise trainer
Precondition	The fitness freak, nutritionist and exercise trainer thoroughly use the system.
Post condition	The reviews of fitness freak, nutritionist and exercise trainer are saved.
Result	Modifications and improvements are made in the system.
Main Scenario	<ol style="list-style-type: none"> 1. The fitness freak, nutritionist and exercise trainer select the review feature to share their experience. 2. The system asks the fitness freak, nutritionist and exercise trainer to enter the details. 3. The fitness freak, nutritionist and exercise trainer write their experience. 4. The system requests the fitness freak, nutritionist and exercise to solve the rating quiz.

	<p>5. The system asks the fitness freak, nutritionist and exercise trainer to give suggestions for improvement.</p> <p>6. The fitness freak, nutritionist and exercise trainers give their opinions.</p> <p>7. The system saves the given review.</p>
Alternative Scenario	4a: The fitness freak, nutritionist and exercise trainer can skip the rating quiz.
Exception Scenario	The fitness freak, nutritionist and exercise trainer doesn't want to provide review.
Qualities	Usability, Efficiency, Performance

UC – 07 Get Fit Together

Section	Content
Designation	UC-07
Name	Get Fit Together
Authors	Miss Ariana Leo
Priority	Importance for system: medium Technological risk: low
Criticality	Low
Source	Martha Lewis
Responsible	Developer,
Description	The fitness freak can perform exercises and share achievement and health records with their friends using the system.
Trigger event	The fitness freak wants to perform exercises and share health and fitness records with friends.
Actors	Fitness freak
Precondition	The people with whom fitness freak wants to connect must have an account of the system.
Post-condition	Fitness freak perform activities and exercise by connecting with friends.
Result	Get motivated to stay healthy and fit together.
Main Scenario	<ol style="list-style-type: none"> 1. The system asks the fitness freak to search the friends they want to connect with. 2. The fitness freak enters their email to search for them. 3. The system searches and displays the other fitness freak. 4. The fitness freak connects with them. 5. The other fitness freak receives a notification of connection and accepts it.

	6. The two-fitness freak can share their records, achievements and chat with each other. The fitness freaks can even have an online session through V chat to perform fitness activities and exercises together.
Alternative Scenario	2a: If there is no account available with the entered email the system displays a message that no user is found. 5a: If the other fitness freak doesn't accept the request, the system removes it.
Exception Scenario	The fitness freak wants to use the system on his own.
Quality Requirements	Usability, performance, Availability

UC – 08 Consult Nutritionist

Section	Content
Designation	UC-08
Name	Consult Nutritionist
Authors	Mr. Jack
Priority	Importance for system success: high Technological risk: medium
Criticality	High
Source	Ms. Lambda (Domain Expert)
Responsible	Ms. Lambda
Description	Fitness freak consults with the nutritionist regarding her \his health improvement through a guided diet plan.
Trigger event	Fitness freak wants consultation from nutritionist for healthy diet guidance.
Actors	Fitness freak, nutritionist(s)
Precondition	The fitness freak should have selected a nutritionist from the available ones according to their preference.
Postcondition	Fitness Freak get recommendation from nutritionist.
Result	Fitness freak get guidance and online consultation facilities from domain expert (nutritionist).
Main Scenario	<ol style="list-style-type: none"> 1. Fitness freak log in to the DiexFit-Health and fitness Management System by entering credentials (i.e., Email and password). 2. Fitness Freak selects “Consult Nutritionist”. 3. The DiexFit-Health and Fitness Management System shows the available nutritionists.

	<ol style="list-style-type: none"> 4. Fitness Freak selects the nutritionist from the provided list of available nutritionists after checking their professional details. 5. The system notifies the nutritionist regarding fitness freak. 6. Fitness Freak gets notification on the provided email if the consultation request accepted by the nutritionist and schedules a consultation by providing a date and time. 7. Fitness Freak attends the session on the DiexFit-Health and fitness Management System on the scheduled time and date. 8. The nutritionist checks fitness freak profile for better guidance and asks about fitness freak preference and goals. 9. The nutritionist will provide guidance and healthy diet plan to the fitness freak. 10. The online consultation is saved in the record of the fitness freak.
Alternative Scenario	<p>6a: If the nutritionist doesn't accept the consultation request of the fitness freak within 24 hours, the system notifies and the fitness freak.</p> <p>6a1: The system suggests the other nutritionists to the fitness freak.</p>
Exception Scenario	7a. If fitness freak fails to attend the scheduled session, then he\she can reschedule the session.
Quality Requirements	Usability, Serviceability

UC – 09 Consult Exercise Trainer

Section	Content
Designation	UC-09
Name	Consult Exercise Trainer
Authors	Mr. Jack
Priority	Importance for system success: high Technological risk: medium
Criticality	High
Source	Ms. Lambda (Domain Expert)
Responsible	Ms. Lambda
Description	This use case describes how fitness freak can consult with the exercise trainer regarding her\his health and fitness issues for guidance.
Trigger event	Fitness freak wants consultation from Exercise trainer for exercise guidance.
Actors	Fitness freak, Exercise trainer

Precondition	The fitness freak should have selected an exercise trainer from the available ones according to their preference.
Postcondition	Fitness freak get guidance and exercise training facility from exercise trainer.
Result	Fitness freak get guidance and online training facilities from domain expert (exercise trainer).
Main Scenario	<ol style="list-style-type: none"> 1. Fitness freak log in to the DiexFit-Health and fitness Management System by entering credentials (i.e., Email and password). 2. Fitness Freak selects “Consult Exercise Trainer”. 3. The DiexFit-Health and fitness Management System shows the available Exercise Trainers. 4. Fitness Freak selects the trainer from the provided list of available trainers after checking their professional details. 5. The system notifies the trainer regarding fitness freak. 6. Fitness Freak gets notification on the provided email if the consultation request accepted by trainer and schedules a consultation by providing a date and time. 7. Fitness Freak attends the session on the DiexFit-Health and fitness Management System on the scheduled time and date. 8. The trainer checks fitness freak profile for better guidance and asks about Fitness freak preference and goals. 9. The exercise trainer will provide guidance and online exercise training to the fitness freak. 10. The online consultation is saved in the record of the fitness freak.
Alternative Scenario	6a: If the exercise trainer doesn't accept the consultation request of the fitness freak within 24 hours, the system notifies and the fitness freak. 6a1: The system suggests the other exercise trainers to the fitness freak.
Exception Scenario	7a. If fitness freak fails to attend the scheduled session, then he\she can reschedule the session.
Qualities	Usability, Serviceability

UC – 10 Calculate BMI

Section	Content
Designation	UC-10
Name	Calculate BMI (Body Mass Index)
Authors	Mr. Jack
Priority	Importance for system success: high Technological risk: medium
Criticality	High
Source	Ms. Lambda (Domain Expert)

Responsible	Ms. Lambda
Description	Fitness freak can calculate his\her body mass index (BMI).
Trigger event	Fitness freak wants to know his\her BMI.
Actors	Fitness freak
Precondition	Fitness freak must provide their height, age and weight.
Post-condition	Fitness freak gets his\her BMI.
Result	Fitness freak get BMI (Body Mass Index) score from BMI calculator that will help in understanding his body's status regarding fitness and health.
Main Scenario	<ol style="list-style-type: none"> 1. The fitness freak wants to calculate his\her BMI. 2. The system asks the fitness freak to enter their age, height and weight. 3. The fitness freak provides the information. 4. The system calculates and displays the BMI of the fitness freak.
Alternative Scenario	3a. If fitness freak doesn't provide information of height and weight and age, the system displays a notification to enter the requested information first.
Exception Scenario	The fitness freak doesn't want to calculate his\her BMI, they can use the other functionalities of the system.
Quality Requirements	Performance, functionality

UC – 11 Set Goal

Section	Content
Designation	UC-11
Name	Set Goal
Authors	Me. Dan Wilton
Priority	Importance for system success: low Technological risk: medium
Criticality	Medium
Source	Existing system
Responsible	Mr. David Henry
Description	The fitness freak can set goal of a particular exercise daily.

Trigger event	Fitness freak wants to set the goal for the activities and exercises.
Actors	Fitness freak
Precondition	Fitness freak must have an account.
Post condition	The system saves the set goal for intended activities and exercises.
Result	Able to achieve fitness goal for the activities.
Main Scenario	<ol style="list-style-type: none"> 1. The system asks to select the activity of which fitness freak wants to set goal. 2. Fitness freak selects the activity. 3. The system asks to set the goal for that particular activity. 4. Fitness freak set the goal. 5. The system asks to select any other activity to set the goal. 6. Fitness freak selects the other activity. 7. The system asks to select the goal for the activity. 8. The fitness freak selects the goal. 9. The system asks to save the goals. 10. Fitness freak select save.
Alternative Scenario	6a. If the fitness freak wants to set the goal only for one activity, fitness freak skips selecting goal for the other activities.
Exception Scenario	The fitness freak does not want to set goal for any activity.
Quality	Reliability, usability

UC – 12 Make Payment

Section	Content
Designation	UC-12
Name	Make payment
Authors	Miss Oliver Henry
Priority	Importance for system: high Technological risk: high
Criticality	High
Source	Document
Responsible	Team leader

Description	Fitness freak has to pay if he\she consulted nutritionist or exercise trainer.
Trigger event	Fitness freak consulted a nutritionist or exercise trainer.
Actors	Fitness freak, manager
Precondition	The fitness freak must have attended the online consultation with the nutritionist or exercise trainer and must have enough balance to pay.
Postcondition	Fitness freak will receive a confirmation message
Result	Payment is done successfully.
Main Scenario	<ol style="list-style-type: none"> 1. The system asks the fitness freak to choose the mode of payment. 2. The fitness freak chooses the available options. 3. The system asks the fitness freak to enter the fee of nutritionist and exercise trainer. 4. The fitness freak enters the amount and pays. 5. The system saves the payment record.
Alternative Scenario	4a: If the fitness freak enters less amount than the set fee of the nutritionist or exercise trainer, they system doesn't accept it and displays error.
Exception Scenario	The fitness freak doesn't consult the trainer or nutritionist.
Quality Requirements	Usability, performance, reliability

Artifact-4

Features and Software Requirements

4.1.1. Registration

FE-1 Login:

SRS.1.1: The system allows account holder login by entering credentials (i.e., Username, Password, Phone number and valid Email address).

SRS.1.2: The account holder should enter a password that comprises of at least 4 characters, 2 digits and 2 symbols.

SRS.1.3: The system should display a message that an account with this email already exists if account holder uses the existing email again.

SRS 1.4: The account holder should be able to reset password through email if they forget it.

SRS.1.5: The account holder would be able to login again after 2 hours if they enter incorrect credentials 5 times.

FE-2 Profile:

SRS.2.1: The account holder should provide a username and password for the system.

SRS.2.2: The password should be having at least 5 digits or characters.

SRS.2.3: The account holder should provide photo 45mm x 35mm.

SRS.2.4: The account holder should provide age, gender, height and weight.

SRS.2.5: The system should increment the age by 1, after 365 days of entered date of birth at 12:00 am.

SRS 2.6: The account holder shall be able to update profile information at any time.

FE-32 Approach Us:

SRS.32.1: The system should allow to select the mode as fitness freak, exercise trainer and nutritionist.

SRS.32.2: The system should be able to allow to complete the profile according to the prescribed role.

SRS.32.3: The system should be able to provide features according to the selected role.

SRS.32.4: The system should be able to allow to use dual roles at a time.

FE-33 About:

SRS.33.1: Nutritionist, exercise trainer should be able to add their qualification as a professional.

SRS.33.2: Nutritionist, exercise trainer should be able to add links and images of their certificates of their field.

SRS.33.3: Nutritionist, exercise trainer should be able to add working experience as a professional.

SRS.33.4: Nutritionist, exercise trainer should be able to add date and time to access them through V-Chat.

SRS.33.5: The system should be able nutritionists and trainers to update their professional details.

4.1.2. Fitness Control

FE-8 Stay Fit:

SRS 8.1: The system should provide available exercises options.

SRS.8.2: The fitness freak shall be able to view exercise instructions in details.

SRS.8.3: The system should also provide videos for the available exercises.

SRS.8.4: The system should keep the record of fitness freak's performed exercises and their time.

SRS.8.5: The system should remind the fitness freak to rest if exercise time exceeds than 1 hour.

FE-10 Workout Time:

SRS.10.1: The system shall be able to calculate total time fitness freak spends on workout.

SRS 10.2: The system should make a chart of the workout time progress in a month.

SRS.10.3: Fitness freak shall be able to view their workout time history daily.

SRS.10.4: Fitness freak shall be able to delete their workout history.

FE-11 Fitness Record:

SRS.11.1: The system shall maintain a history record of all exercises which is entered by the fitness freak including the type of exercise, duration, day, and time.

SRS.11.2: The fitness record of each exercise should also be available separately with day, date, time and duration.

SRS.11.3: Fitness freaks shall be able to view their fitness record for each day in a month.

SRS.11.4: The fitness freak shall be able to delete the fitness records.

SRS.11.5: The visualization of history records shall be represented in the form of charts or graphs.

FE-17 Fit Together:

SRS.17.1: The system shall be able to provide video chat functionality. This functionality should support audio communication and high-quality video streaming.

SRS.17.2: The system shall allow the fitness freak to share their health and fitness record with friends using the system through video chat.

SRS.17.3: The fitness freak, nutritionist and exercise trainer shall be able to accept or reject the incoming V chat request.

SRS.17.4: The system should track and display the fitness freak performance during group exercise

sessions.

SRS.17.5: The system shall be able to allow the fitness freak to schedule group exercises with their friends, and the ability to set the date, time, and type of exercise.

SRS.17.6: The fitness freak shall also be able to have video consultation with the nutritionist or exercise trainer through V chat.

FE-25 Target Area:

SRS.25.1: The fitness freak shall be able to select their exercise target area.

SRS.25.2: The fitness freak shall be able to select more than one target area if they want to work on multiple body parts during their workout.

SRS.25.3: The system should suggest relevant exercises associated with the chosen target areas.

FE-26 Challenges:

SRS.26.1: The fitness freak shall be able to select a variety of fitness challenges available within the system.

SRS.26.2: The system should include challenge level.

SRS.26.3: The system should provide relevant challenges associated with the chosen target areas.

SRS.26.4: The system should maintain the history of completed challenges.

FE-28 Exercise Level:

SRS.27.1: The fitness freak shall be able to easily select their exercise level.

SRS.27.2: The system should provide clear descriptions for each exercise level such as Beginner, Intermediate, Advanced to guide us in making suitable selections.

SRS.27.3: The fitness freak shall be able to select different exercise level for different exercises.

FE-37 Consult Exercise Trainer:

SRS -37.1: Fitness freak should be able to visit the profile of the exercise trainer.

SRS.37.2: Fitness freak should be able to check the professional details of exercise trainer.

SRS.37.3: Fitness freak should be able to request the exercise trainer to get time and for consultation.

SRS.37.4: System shall be able to notify the fitness freak when the request is accepted by the exercise trainer.

SRS.37.5: Fitness freak shall be able to consult exercise trainer through V-Chat.

4.1.3. Health Control

FE-3 Health Metrics

SRS 3.1: The system should display the list of health metrics i.e., BP, Heartrate, Body temperature and Oxygen level.

SRS 3.2: The fitness freak should put the thumb on the sensor for 1 minute to measure the BP, Heartrate, Body temperature and oxygen level.

SRS.3.3: The system should display the BP and also display that BP is normal if it is $80\text{mmHg} \leq \text{BP} \leq 120\text{mmHg}$ else the system should display BP is low if it is less than 80mmHg and BP is high if it is greater than 120 mmHg .

SRS 3.4: The system should display the heartrate and display that heartrate is normal if the range is from $60\text{-}100\text{bpm}$ else display that heartrate is low if it is less than 60 bpm and heartrate is high if it is greater than 100 bpm .

SRS.3.5: The system should display the body temperature in Fahrenheit and degree Celsius.

SRS 3.6: The system should display the oxygen level and display that oxygen level is normal if it is 95% or higher else display that oxygen level is low if it is less than 95% .

FE-4 Activity Tracking:

SRS.4.1: The system should display multiple activities such as walking, running, cycling, hiking, and swimming.

SRS 4.2: The system should accurately track and record the fitness freak's activity data through a sensor.

SRS.4.3: The fitness freak should be able to view their activity tracking history and progress.

SRS.4.4: The system should provide notification of duration of each activity at 12.am performed by fitness freak in 24 hours.

FE-5 Step Counter:

SRS 5.1: The system should accurately count steps through sensor and display the number of steps taken by the fitness freak in a day.

SRS.5.2: The sensor should be at a maximum distance of 50 cm from the fitness freak for accurate counting.

SRS.5.3: The fitness freak shall be able to view their step count history per week.

SRS.5.4: The system should increment the counter by 1 with each step.

FE-6 Sleep Score:

SRS.6.1: The fitness freak shall be able to set his/her time for sleeping and system should give a reminder at that time.

SRS.6.2: The fitness freak shall be able to set his/her time for waking and system should give a reminder at that time.

SRS.6.3: The fitness freak should be able to select the reminder tone.

SRS.6.4: The fitness freak shall be able to change the time set for sleeping and waking.

FE-7 Screen Time:

SRS.7.1: The system should keep the track of the number of hours and minutes fitness freak spends daily on screen.

SRS.7.2: The fitness freak shall be able to view the screen time history per day.

SRS.7.3: The fitness freak shall be able to set screen time per day.

SRS.7.4: The fitness freak must receive notification from the system in case the set time exceeds.

FE-27 BMI Calculator:

SRS.27.1 The fitness freak shall be able to input their height and weight easily.

SRS.27.2 The system should implement the standard Body Mass Index (BMI) formula: $BMI = \frac{\text{weight (kg)}}{(\text{height (m)})^2}$.

SRS.27.3 The system should support both pounds and kilograms for weight and inches and meters for height.

SRS.27.4 The system should display the BMI result along with corresponding BMI categories such as Underweight, Normal, Overweight, help to input their BMI value.

FE-31 Ovulation:

SRS.31.1: Fitness freak shall be able to add the date when mensuration cycle occurs.

SRS.31.2: The system should be able to maintain the history of menstruation cycles.

SRS.31.3: Fitness freak should be able to add the date when mensuration cycle ended.

SRS.31.4: Fitness freak, should be able to set reminder for the next month before ovulation date.

4.1.4. Nutrition Check

FE-9 Intermediate Fasting:

SRS.9.1: The fitness freak shall be able to set days for keeping fast.

SRS.9.2: The fitness freak shall be able to set time eat after.

SRS.9.3: The system should give a reminder to eat at the set time.

SRS.9.4: The fitness freak should be able to change the set days and time.

SRS.9.5: The system should keep the history of intermediate fasting.

FE-12 Food Diary:

SRS.12.1: The system should allow the fitness freak to enter the food items.

SRS.12.2: The system automatically calculates the calories in kcal and Joules for each food item.

SRS.12.3: The system shall maintain a history of calories intake per meal on a dashboard.

SRS.12.4: Fitness freaks shall be able to add picture of the food eaten in a day.

SRS.12.5: The system shall be able to provide food categories to enter the food item.

FE-29 Meal Plan:

SRS.29.1: The fitness freak shall be able to select meal preference.

SRS.29.2: The system should provide meal plans with options for weight loss or weight gain.

SRS.29.3: The fitness freak shall be able to choose their preferred meal frequency such as three meals a day, or multiple small meals based on their lifestyle.

SRS.29.4: The system should provide a meal plan that is balanced.

FE-30 Barcode Scanner:

SRS.30.1: The system should display nutrition information immediately after scanning, so users get instant details about the food.

SRS.30.2: The system shall be able to design a user-friendly interface for the barcode scanner.

SRS.30.3: The system shall be able to clearly highlight calories content and provide details of proteins, carbohydrates, fats, and other nutrients present in food.

SRS.30.4: The system should have an efficient barcode scanner.

FE-36 Consult Nutritionist:

SRS.36.1: Fitness freak should be able to visit the profile of the nutritionist.

SRS.36.2: Fitness freak should be able to check the professional details of nutritionist on the profile.

SRS.36.3: Fitness freak should be able to request the nutritionist to get time and for consultation.

SRS.36.4: System should be able to notify the fitness freak when the request is accepted by the nutritionist.

SRS.36.5: Fitness freak shall be able to consult nutritionist through V-Chat.

4.1.5. Variegated Controls

FE-13 Goal Set:

SRS.13.1: The system allows the fitness freak to set their goal for each activity and exercise per day.

SRS.13.2: The fitness freak should be able to set different goals for different activities and exercises for different days of the week.

SRS.13.3: The system automatically tracks the fitness freak's progress toward their goals through sensor.

SRS.13.4: The system should display the fitness freak's goals against each activity and exercise on the dashboard.

SRS.13.5: The system notifies the fitness freak when they have completed their goals else display a motivation quote at the end of the day if the goal is unable to be fulfilled.

FE-14 Achievements:

- SRS.14.1:** The system should be able to track the fitness freak's progress and give achievements in the form of medals.
- SRS.14.2:** The system should allow the fitness freak to share their achievements with their friends, family, and social media platforms.
- SRS.14.3:** The system shall be able to give a notification when they achieve a reward.
- SRS.14.4:** The system shall maintain the history of achievements in a month.
- SRS.14.5:** The fitness freak shall be able to delete the history of the achievements.

FE-15 Reminders:

- SRS.15.1:** The fitness freak must be able to set reminders for specific activities.
- SRS.15.2:** The system should be able to track the fitness freak's activities, if the activity has not been performed in 24 hours, then give a reminder to complete this activity.
- SRS.15.3:** The system shall display the reminder in the form of motivational quotes or a direct message.
- SRS.15.4:** The system allows the fitness freak to set the timing of their reminders.
- SRS.15.5:** The system should allow the fitness freak to change the reminder setting including the sound, vibration, and displaying format.

FE-16 Language Selection:

- SRS.16.1:** The system should be able to provide different languages for fitness freaks, nutritionists, exercise trainers and manager to use the system.
- SRS.16.2:** The system shall allow the fitness freaks, trainers, nutritionists and manager to use the system in dual languages.
- SRS.16.3:** The system shall display subtitles in English if the fitness freak, nutritionist, exercise trainer and manager use voice processing.
- SRS.16.4:** The system allows the fitness freak to change the language at any time.

FE-18 Reset Goal:

- SRS.18.1:** The system shall allow the fitness freak to easily reset their fitness goals.
- SRS.18.2:** The system shall be able to update all data when a goal is reset or modified.
- SRS.18.3:** The fitness freak shall be able to reset goal of each activity and exercise separately.

FE-19 Privacy Protection:

- SRS.19.1:** The system should keep an eye on user login and detect when a user account is logged in

from an unknown device.

SRS.19.2: The system shall ask the fitness freak to enter code sent on provided email to verify identity before allowing access to the new device.

SRS.19.3: The system shall be able to allow the fitness freak to set the privacy settings such as biometric and two-factor authentication.

SRS.19.4: The system shall allow the fitness freak to view and manage the devices that are currently logged into their account.

SRS.19.5: If the fitness freak account is accessed on another device, and the verification is not completed within 2 minutes, the system doesn't provide access of the system to the new device.

FE-20 Units of Measurements:

SRS.20.1: The Fitness freak shall be able to choose from commonly used units such as meters/feet for height, kilograms/pounds for weight, and calories/kilojoules for calorie measurement.

SRS.20.2: The system should automatically convert all the measurement to the selected units of measurement and display them.

SRS.20.3: The fitness freak shall be able to provide the desired unit for conversion other than the available ones.

SRS.20.4: This system should provide basic conversion from one unit to another in a table.

FE-21 Discover Articles:

SRS.21.1 The Fitness freak shall be able to download articles for offline access.

SRS.21.2 The system manager shall be able to add articles covering health, fitness, nutrition, and well-being to offer a huge range of content.

FE-22 Theme:

SRS.22.1 The system should provide range of theme options, such as light mode, dark mode, colors and design.

SRS.22.2 The fitness freak, nutritionists, exercise trainers and manager shall be able to add theme

SRS.22.3 The fitness freak, nutritionists, exercise trainers and manager shall be able to have eye protection mode to easily use the system.

SRS.22.4 Each theme should work well, and fits on different screens, like computers, phones, smart watch.

FE-23 Review:

SRS.23.1 The fitness freak, nutritionists, exercise trainers and manager shall be able to provide review and suggestions for improvement in the system.

SRS.23.2 The system should have star rating allowing to give rating to their overall experience with the system.

FE-24 Quizzes:

SRS.24.1 The system should conduct quizzes weekly on health, training, or nutrition.

SRS.24.2 The system should allow fitness freaks to compare their quiz results with others in the community.

SRS.24.3 The system should maintain the history of the solved quizzes.

FE-34 Daily Motivation:

SRS.34.1: Fitness freak should be able to enable “Daily Motivation”.

SRS.34.2: The system will allow fitness freak to select time to send motivation daily.

SRS.34.3: The system will send motivational quote to stay fit and healthy through notification.

SRS.34.4: The fitness freak should be able to select the displaying format of daily motivation.

FE-35 Voice Processing:

SRS.35.1: Fitness freak should be able to give voice input in selected language to search desired feature.

SRS.35.2: System should be able to process the voice within 3 seconds.

FE-38 V Chat:

SRS 38.1: Fitness freak should be able to connect with available friends on the system and share health record and exercise together.

SRS.38.2: The system should allow fitness freak to consult with exercise trainer and nutritionist.

SRS.38.3: The system should allow to keep the record of online consultations.

SRS.38.4: The system should allow to delete the history of using V Chat.

FE-39 Payment:

SRS.39.1: The system should allow fitness freak to select payment method.

SRS.39.2: Fitness freak should be able to enter the fee of nutritionist and exercise trainer.

SRS.39.3: The system should be able to save the payment record.

SRS.39.4: The system should be able to detect if the payment entered by the fitness freak is less than the fee of nutritionist or exercise trainer then display error.

SRS.39.5: The system should be able to send a notification message through provided email when payment is done by the fitness freak.

SRS.39.6: Fitness freak should be able to delete payment record.

Artifact-5

Requirements Traceability

Matrix

SRS-No.	Description	Source	Designation/ Department	Priority	Use Case #ID	Test Case #ID
SRS-1.1	The system allows account holders to login by entering credentials (i.e., Username, Password, Phone number, and valid Email address).	Fitness freak, nutritionist, trainer and manger	Administration department	High	UC-01	TC-1.
SRS-1.2	The account holders should enter a password that comprises of at least 4 characters, 2 digits and 2 symbols	Fitness freak, nutritionist, trainer and manger	Administration department	High	UC-01	TC-2.
SRS-1.3	The system should display a message that an account with this email already exists if account holders to use the existing email again.	Fitness freak, nutritionist, trainer and manger	Administration department	High	UC-01	TC-3.
SRS-1.4	The account holders should be able to reset password through email if they forget it.	Fitness freak, nutritionist, trainer and manger	Administration department	High	UC-01	TC-4.
SRS-1.5	The account holders would be able to login again after 2 hours if they enter incorrect credentials 5 times.	Fitness freak, nutritionist, trainer and manger	Administration department	High	UC-01	TC-5.
SRS-2.1	The account holders should provide a username and password for the system.	Fitness freak, nutritionist, trainer and manger	Management department	High	UC-02	TC-2.1
SRS-2.2	The password should be having at least 5 digits or characters.	Fitness freak, nutritionist, trainer and manger	Management department	High	UC-02	TC-2.2
SRS-2.3	The account holders should provide photo 45mm x 35mm.	Fitness freak, nutritionist, trainer and manger	Management department	High	UC-02	TC-2.3
SRS-2.4	The account holders should provide age, gender, height and weight.	Fitness freak, nutritionist, trainer and manger	Management department	High	UC-02	TC-2.4
SRS-2.5	The system should increment the age by 1, after 365 days of entered date of birth at 12:00 am.	Fitness freak, nutritionist, trainer and manger	Management department	Medium	UC-02	TC-2.5
SRS-2.6	The account holders shall be able to update profile information at any time.	Fitness freak, nutritionist, trainer and manger	Management department	High	UC-02	TC-2.6
SRS-3.1	The system should display the list of health metrices i.e., Bp, Heartrate, Body temperature and Oxygen level.	Fitness freak	Fitness freak	High		TC-3.1

SRS-3.2	The fitness freak should put the thumb on the sensor for 1 minute to measure the BP, Heartrate, Body temperature and oxygen level.	Fitness freak	Fitness freak	High		TC-3.2
SRS-3.3	The system should display the BP and also display that BP is normal if it is 80mmHg<=Bp>=120mmHg else the system should display BP is low if it is less than 80mmHg and BP is high if it is greater than 120 mmHg.	Fitness freak	Management department	High		TC-3.3
SRS-3.4	The system should display the heartrate and display that heartrate is normal if the range if from 60-100bpm else display that heartrate is low if it is less than 60 bpm and heartrate is high is it is greater than 100 bpm.	Fitness freak	Manager	High		TC-3.4
SRS-3.5	The system should display the body temperature in Fahrenheit and degree Celsius.	Fitness freak	Management department	High		TC-3.5
SRS-3.6	The system should display the oxygen level and display that oxygen level is normal if it is 95% or higher else display that oxygen level is low if it is less than 95%.	Fitness freak	Manager	High		TC-3.6
SRS-4.1	The system should display multiple activities such as walking, running, cycling, hiking, and swimming.	Fitness freak	Manager	High	UC-07	TC-4.1
SRS-4.2	The system should accurately track and record the fitness freak's activity data through a sensor.	Fitness freak	Fitness freak	High	UC-07	TC-4.2
SRS-4.3	The fitness freak should be able to view their activity tracking history and progress.	Fitness freak	Fitness freak	Medium	UC-07	TC-4.3
SRS-4.4	The system should provide notification of duration of each activity at 12.am performed by fitness freak in 24 hours.	Fitness freak	Management department	High	UC-07	TC-4.4
SRS-5.1	The system should accurately count steps through sensor and display the number of steps taken by the fitness freak in a day.	Fitness freak	Manager	High	UC-08, UC -09	TC-5.1
SRS-5.2	The sensor should be at a maximum distance of 50 cm from the fitness freak for accurate counting.	Fitness freak	Fitness freak	High	UC-08, UC -09	TC-5.2
SRS-5.3	The fitness freak shall be able to view their step count history per week.	Fitness freak	Fitness freak	Medium	UC-08, UC -09	TC-5.3
SRS-5.4	The system should increment the counter by 1 with each step.	Fitness freak	Manager	High	UC-08, UC -09	TC-5.4

SRS-6.1	The fitness freak shall be able to set his/her time for sleeping and system should give a reminder at that time.	Fitness freak	Fitness freak	High	UC-08, UC -09	TC-6.1
SRS-6.2	The fitness freak shall be able to set his/her time for waking and system should give a reminder at that time.	Fitness freak	Fitness freak	High	UC-08, UC -09	TC-6.2
SRS-6.3	The fitness freak should be able to select the reminder tone.	Fitness freak	Manager	Medium	UC-08, UC -09	TC-6.3
SRS-6.4	The fitness freak shall be able to change the time set for sleeping and waking.	Fitness freak	Fitness freak	Medium	UC-08, UC -09	TC-6.4
SRS-7.1	The system should keep the track of the number of hours and minutes fitness freak spends daily on screen.	Fitness freak	Manager	Medium	UC-11	TC-7.1
SRS-7.2	The fitness freak shall be able to view the screen time history per day.	Fitness freak	Fitness freak	Medium	UC-11	TC-7.2
SRS-7.3	The fitness freak shall be able to set screen time per day.	Fitness freak	Fitness freak	Medium	UC-11	TC-7.3
SRS-7.4	The fitness freak must receive notification from the system in case the set time exceeds.	Fitness freak	Management department	High	UC-11	TC-7.4
SRS-8.1	The system should provide available exercises options.	Fitness freak	Manager	High	UC-05	TC-8.1
SRS-8.2	The fitness freak shall be able to view exercise instructions in details.	Fitness freak	Fitness freak	High		TC-8.2
SRS-8.3	The system should also provide videos for the available exercises.	Fitness freak	Manager	Medium	UC-05	TC-8.3
SRS-8.4	The system should keep the record of fitness freak's performed exercises and their time.	Fitness freak	Manager	High		TC-8.4
SRS-8.5	The system should remind the fitness freak to rest if exercise time exceeds than 1 hour.	Fitness freak	Manager	Medium	UC-05	TC-8.5
SRS-9.1	The fitness freak shall be able to set days for keeping fast.	Fitness freak	Fitness freak	High	UC -11	TC-9.1
SRS-9.2	The fitness freak shall be able to set time eat after.	Fitness freak	Fitness freak	High	UC -11	TC-9.2
SRS-9.3	The system should give a reminder to eat at the set time.	Fitness freak	Management department	High	UC -11	TC-9.3
SRS-9.4	The fitness freak should be able to change the set days and time.	Fitness freak	Fitness freak	Medium	UC -11	TC-9.4
SRS-9.5	The system should keep the history of intermediate fasting.	Fitness freak	Manager	Medium	UC -11	TC-9.5

SRS-10.1	The system shall be able to calculate total time fitness freak spends on workout.	Fitness freak	Manager	High	UC-10	TC-10.1
SRS-10.2	The system should make a chart of the workout time progress in a month.	Fitness freak	Management department	High	UC-10	TC-10.2
SRS-10.3	Fitness freak shall be able to view their workout time history daily.	Fitness freak	Manager	Medium	UC-10	TC-10.3
SRS-10.4	Fitness freak shall be able to delete their workout history	Fitness freak	Fitness freak	Medium	UC-10	TC-10.4
SRS.11.1	The system shall maintain a history record of all exercises which is entered by the fitness freak including the type of exercise, duration, day, and time	Fitness freak	Manager	High	UC-05	TC-11.1
SRS.11.2	The fitness record of each exercise should also be available separately with day, date, time and duration	Fitness freak	Manager	High	UC-04	TC-11.2
SRS.11.3	Fitness freaks shall be able to view their fitness record for each day in a month.	Fitness freak	Fitness freak	High		TC-11.3
SRS.11.4	The fitness freak shall be able to delete the fitness records.	Fitness freak	Fitness freak	High		TC-11.4
SRS.11.5	The visualization of history records shall be represented in the form of charts or graphs.	Fitness freak	Fitness freak	High	UC-09	TC-11.5
SRS.12.1	The system should allow the fitness freak to enter the food items.	Fitness freak	Fitness freak	High	UC-08	TC-12.1
SRS.12.2	The system automatically calculates the calories in kcal and Joules for each food item.	Fitness freak	Manager	High	UC-10	TC-12.12
SRS.12.3	The system shall maintain a history of calories intake per meal on a dashboard.	Fitness freak	Manager	High	UC-08	TC-12.3
SRS.12.4	Fitness freaks shall be able to add picture of the food eaten in a day.	Fitness freak	Fitness freak	High	UC-08	TC-12.4
SRS.12.5	The system shall be able to provide food categories to enter the food item.	Fitness freak	Manager	High	UC-08	TC-12.5
SRS.13.1	The system allows the fitness freak to set their goal for each activity and exercise per day.	Fitness freak	Fitness freak	High	UC-11	TC-13.1
SRS.13.2	The fitness freak should be able to set different goals for different activities and exercises for different days of the week.	Fitness freak	Fitness freak	High	UC-11	TC-13.2
SRS.13.3:	The system automatically tracks the fitness freak's progress toward their goals through sensor.	Fitness freak	Fitness freak	High	UC-11	TC-13.3

SRS.13.4	The system should display the fitness freak's goals against each activity and exercise on the dashboard.	Fitness freak	Fitness Freak	High	UC-11	TC-13.4
SRS.13.5	The system notifies the fitness freak when they have completed their goals else display a motivation quote at the end of the day if the goal is unable to be fulfilled.	Fitness freak	Fitness freak	High		TC-13.5
SRS.14.1	The system should be able to track the fitness freak's progress and give achievements in the form of medals.	Fitness freak	Manager	High		TC-14.1
SRS.14.2	The system should allow the fitness freak to share their achievements with their friends, family, and social media platforms.	Fitness freak	Fitness Freak	High	UC-07	TC-14.2
SRS.14.3	The system shall be able to give a notification when they achieve a reward	Fitness freak	Manager	High		TC-14.3
SRS.14.4	The system shall maintain the history of achievements in a month.	Fitness freak	Fitness freak	Medium		TC-14.4
SRS.14.5	The fitness freak shall be able to delete the history of the achievements	Fitness freak	Fitness freak	Low		TC-14.4
SRS.15.1	The fitness freak must be able to set reminders for specific activities.	Fitness freak	Fitness Freak	High	UC-04	TC-15.1
SRS.15.2	The system should be able to track the fitness freak's activities, if the activity has not been performed in 24 hours, then give a reminder to complete this activity.	Fitness freak	Manager	High		TC-15.2
SRS.15.3	The system shall display the reminder in the form of motivational quotes or a direct message.	Fitness freak	Fitness freak	Medium		TC-15.3
SRS.15.4	The system allows the fitness freak to set the timing of their reminders.	Fitness freak	Fitness Freak	Medium		TC-15.4
SRS.15.5	The system should allow the fitness freak to change the reminder setting including the sound, vibration, and displaying format.	Fitness freak	Fitness freak	Medium		TC-15.5
SRS.16.1	The system should be able to provide different languages for account holders use the system.	Fitness freak, nutritionist, trainer, manager	Fitness freak, nutritionist, manager, trainer	High		TC-16.1
SRS.16.2	The system shall allow the account holders to use the system in dual languages.	Fitness freak, nutritionist, trainer, manager	Fitness freak, nutritionist, manager, trainer	Low		TC-16.2
SRS.16.3	The system shall display subtitles in English if the account holders use the system in another language than English in voice processing.	Fitness freak, nutritionist, trainer, manager	Fitness freak, nutritionist, manager, trainer	Medium		TC-16.3
SRS.16.4	The system allows the account holders to change the language at any time.	Fitness freak, nutritionist, trainer, manager	Fitness freak	High		TC-16.4

SRS.17.1	The system shall be able to provide video chat functionality. This functionality should support audio communication and high-quality video streaming.	Fitness freak, nutritionist, trainer, manager	Manager	High	UC-07	TC-17.1
SRS.17.2	The system shall allow the fitness freak to share their health and fitness record with friends using the system through video chat.	Fitness freak	Fitness freak	High	UC-07	TC-17.2
SRS.17.3	The fitness freak, nutritionist and exercise trainer shall be able to accept or reject the incoming V chat request.	Fitness freak	Fitness freak, nutritionist, manager, trainer	High	UC-07	TC-17.3
SRS.17.4	The system should track and display the fitness freak performance during group exercise sessions	Fitness freak	Manager	High		TC-17.4
SRS.17.5	The system shall be able to allow the fitness freak to schedule group exercises with their friends, and the ability to set the date, time, and type of exercise.	Fitness freak	Fitness freak	High	UC-07	TC-17.5
SRS.17.6	The fitness freak shall also be able to have video consultation with the nutritionist or exercise trainer through V chat.	Fitness freak	Fitness freak	High	UC-08, UC-09	TC-17.6
SRS.18.1	The system shall allow the fitness freak to easily reset their fitness goals.	Fitness freak	Department of Administration	High	UC-11	TC-18.1
SRS.18.2	The system shall be able to update all data when a goal is reset or modified.	Fitness freak	Department of Administration	High	UC-11	TC-18.2
SRS.18.3	The fitness freak shall be able to reset goal of each activity and exercise separately.	Fitness freak	Fitness freak	High	UC-11	TC-18.3
SRS.19.1	The system should keep an eye on user login and detect when an account is logged in from an unknown device.	Fitness freak, nutritionist, trainer and manager	Manager	High	UC-05	TC-19.1
SRS.19.2	The system shall ask the account holder to enter code sent on provided email to verify identity before allowing access to the new device.	Fitness freak, nutritionist, trainer and manager	Fitness freak	High	UC-05	TC-19.2
SRS.19.3	The system shall be able to allow the account holders to set the privacy settings such as biometric and two-factor authentication.	Fitness freak, nutritionist, trainer and manager	Fitness freak	High	UC-05	TC-19.3
SRS.19.4	The system shall allow the account holder to view and manage the devices that are currently logged into their account.	Fitness freak, nutritionist, trainer and manager	Fitness freak	High	UC-05	TC-19.4
SRS.19.5	If the fitness freak account is accessed on another device, and the verification is not completed within 2 minutes, the system doesn't provide access of the system to the new device	Fitness freak, nutritionist, trainer and manager	Fitness freak	High	UC-05	TC-19.5
SRS.20.1	The Fitness freak shall be able to choose from commonly used units such as meters/feet for height, kilograms/pounds for	Fitness freak	Fitness freak	High	UC-10	TC-20.1

	weight, and calories/kilojoules for calorie measurement					
SRS.20.2	The system should automatically convert all the measurement to the selected units of measurement and display them.	Fitness freak	Fitness freak	High	UC-10	TC-20.2
SRS.20.3	The fitness freak shall be able to provide the desired unit for conversion other than the available ones.	Fitness freak	Fitness freak	Medium	UC-10	TC-20.3
SRS.20.4	This system should provide basic conversion from one unit to another in a table.	Fitness freak	Management department	High	UC-10	TC-20.4
SRS-21.1	The Fitness freak shall be able to download articles for offline access.	Fitness freak	Management department	High	UC-01	TC-21.1
SRS-21.2	The system manager shall be able to add articles covering health, fitness, nutrition, and well-being to offer a huge range of content.	Manager	Administration department	High	UC-03	TC-21.2
SRS-22.1	The system should provide range of theme options, such as light mode, dark mode, colors and design.	Fitness freak, nutritionist, trainer and manager	Administrative department	High	UC-03	TC-22.1
SRS-22.2	The account holders shall be able to add theme	Fitness freak, nutritionist, trainer and manager	Administrative department	High	UC-03	TC-22.2
SRS-22.3	The account holders shall be able to have eye protection mode to easily use the system.	Fitness freak, nutritionist, trainer and manager	Management department	High		TC-22.3
SRS-22.4	Each theme should work well, and fits on different screens, like computers, phones, smart watch.	Fitness freak, nutritionist, trainer and manager	Management department	High	UC-01	TC-22.4
SRS-23.1	The account holders shall be able to provide review and suggestions for improvement in the system.	Fitness freak, nutritionist, trainer and manager	Management department	High	UC-06	TC-23.1
SRS-23.2	The system should have star rating allowing account holders to give rating to their overall experience with the system.	Fitness freak, nutritionist, trainer and manager	Account Holder	High	UC-06	TC-23.2
SRS-24.1	The system should conduct quizzes weekly on health, training, or nutrition	Fitness freak	Account Holder	Medium		TC-24.1
SRS-24.2	The system should allow fitness freaks to compare their quiz results with others in the community.	Fitness freak	Fitness Freak	High	UC-07	TC-24.2
SRS-24.3	The system should maintain the history of the solved quizzes.	Fitness freak	Manager	High		TC-24.3
SRS-24.4	The fitness freak shall be able to select their exercise target area.	Fitness freak	Administrative department	High	UC-09	TC-24.4
SRS-25.1	The fitness freak shall be able to select more than one target area if they want to work on multiple body parts during their workout.	Fitness freak	Management department	Medium	UC-09	TC-25.1

SRS-25.2	The system should suggest relevant exercises associated with the chosen target areas.	Fitness freak	Analyst	High	UC-09	TC-25.2
SRS-25.3	The fitness freak shall be able to select a variety of fitness challenges available within the system	Fitness freak	Management department	Medium		TC-25.3
SRS-26.1	The system should include challenge level.	Fitness freak	Administrative Department	Medium		TC-26.1
SRS-26.2	The system should provide relevant challenges associated with the chosen target areas	Fitness freak	Fitness Freak	Medium	UC-09	TC-26.2
SRS-26.3	The system should maintain the history of completed challenges.	Fitness freak	Management department	High		TC-26.3
SRS-26.4	The fitness freak shall be able to input their height and weight easily	Fitness freak	Management department	Medium	UC-02	TC-26.4
SRS-27.1	The system should Implement the standard Body Mass Index (BMI) formula: BMI = weight (kg) / (height (m))^2.	Fitness freak	Management department	Medium	UC-10	TC-27.1
SRS-27.2	The system should support both pounds and kilograms for weight and inches and meters for height	Fitness freak	Management department	Medium	UC-10	TC-27.2
SRS-27.3	The system should display the BMI result along with corresponding BMI categories such as Underweight, Normal, Overweight, help to input their BMI value.	Fitness freak	Management department	Medium	UC-10	TC-27.3
SRS-27.4	The fitness freak shall be able to easily select their exercise level.	Fitness freak	Record Management Department	Low	UC-09	TC-27.4
SRS-28.1	The system should provide clear descriptions for each exercise level such as Beginner, Intermediate, and Advanced to guide us in making suitable selections	Fitness freak	Record Management Department	Medium	UC-09	TC-28.1
SRS-28.2	The fitness freak shall be able to select different exercise level for different exercises.	Fitness freak	Department of Administration	Medium	UC-09	TC-28.2
SRS-28.3	The fitness freak shall be able to a select meal preference.	Fitness freak	Department of Administration	Medium	UC-08	TC-28.3
SRS-29.1	The system should Provide meal plans with options for weight loss or weight gain.	Fitness freak	Nutritionist	High	UC-08	TC-29.1
SRS-29.2	The fitness freak shall be able to choose their preferred meal frequency such as three meals a day, or multiple small meals based on their lifestyle	Fitness freak	Nutritionist	High	UC-08	TC-29.2
SRS-29.3	The system should provide a meal plan that is balanced.	Fitness freak	Record Management Department	High	UC-08	TC-29.3
SRS-29.4	The system should display nutrition information immediately after scanning, so users get instant details about the food.	Fitness freak	Department of Administration	High		TC-29.4

SRS-30.1	The system shall be able to design a user-friendly interface for the barcode scanner.	Fitness freak	Department of Administration	High		TC-30.1
SRS-30.2	The system shall be able to clearly highlight calories content and provide details of proteins, carbohydrates, fats, and other nutrients present in food.	Fitness freak	Department of Administration	High	UC-08	TC-30.2
SRS-30.3	The system should have an efficient barcode scanner.	Fitness freak	Department of Administration	High		TC-30.3
SRS-31.1	Fitness freak shall be able to add the date when mensuration cycle occurs.	Fitness freak	Fitness Freak	Low		TC-31.1
SRS-31.2	The system should be able to maintain the history of menstruation cycles.	Fitness freak	Management Department	High		TC-31.2
SRS-31.3	Fitness freak should be able to add the date when mensuration cycle ended.	Fitness freak	Fitness Freak	High		TC-31.3
SRS-31.4	Fitness freak, should be able to set reminder for the next month before ovulation Fitness freak, should be able to set reminder for the next month before ovulation date.	Fitness freak	Fitness Freak	Medium		TC-31.4
SRS-32.1	The system should allow to select the mode as fitness freak, exercise trainer and nutritionist.	Fitness freak, exercise trainer and nutritionist	Account Holder	High		TC-32.1
SRS-32.2	The system should be able to allow to complete the profile according to the prescribed role.	Fitness freak, exercise trainer and nutritionist and manager	Management Department	High	UC-01, UC-02	TC-32.2
SRS-32.3	The system should be able to provide features according to the selected role.	Fitness freak, exercise trainer and nutritionist	Management Department	High	UC-02	TC-32.3
SRS-32.4	The system should be able to allow to use dual roles at a time.	Fitness freak, exercise trainer and nutritionist	Management Department	Medium	UC-02	TC-32.4
SRS-33.1	Nutritionist, exercise trainer should be able to add their qualification as a professional.	Exercise trainer and nutritionist	Nutritionist, Exercise Trainer	High	UC-01, UC-03	TC-33.1
SRS-33.2	Nutritionist, exercise trainer should be able to add links and images of their certificates of their field.	Exercise trainer and nutritionist	Nutritionist, Exercise Trainer	High	UC-01 UC-03	TC-33.2
SRS-33.3	Nutritionist, exercise trainer should be able to add working experience as a professional.	Exercise trainer and nutritionist	Nutritionist, Exercise Trainer	High	UC-01 UC-03	TC-33.3
SRS-33.4	Nutritionist, exercise trainer should be able to add date and time to access them through V-Chat.	Exercise trainer and nutritionist	Nutritionist, Exercise Trainer	Medium	UC-07 UC-08 UC-09	TC-33.4
SRS-33.5	The system should be able nutritionists and trainers to update their professional details.	Exercise trainer and nutritionist	Management Department	High	UC-07, UC-08, UC-09 UC-03	TC-33.5
SRS-34.1	Fitness freak should be able to enable "Daily Motivation".	Fitness Freak	Fitness freak	Medium		TC-34.1
SRS-34.2	The system will allow fitness freak to select time to send motivation daily.	Fitness Freak	Management Department	Low		TC-34.2

SRS-34.3	The system will send motivational quote to stay fit and healthy through notification.	Fitness Freak	Fitness Freak	Medium		TC-34.3
SRS-34.4	The fitness freak should be able to select the displaying format of daily motivation.	Fitness Freak	Fitness freak	Medium		TC-34.4
SRS-35.1	Fitness freak should be able to give voice input in selected language to search desired feature.	Fitness Freak	Fitness freak	Medium		TC-35.1
SRS-35.2	System should be able to process the voice.	Fitness Freak	Management Department	Medium		TC-35.2
SRS-36.1	Fitness freak should be able to visit the profile of the nutritionist.	Fitness Freak	Fitness freak	High	UC-08 UC-09, UC-02	TC-36.1
SRS-36.2	Fitness freak should be able to check the professional details of nutritionist on the profile	Fitness Freak	Fitness freak	Medium	UC-02, UC-08 UC-03	TC-36.2
SRS-36.3	Fitness freak should be able to requests the nutritionist to get time and for consultation	Fitness Freak	Fitness freak	High	UC-08	TC-36.3
SRS-36.4	System should be able to notify the fitness freak when the request is accepted by the nutritionist.	Fitness Freak	Management Department	Medium	UC-08	TC-36.4
SRS-36.5	Fitness freak shall be able to consult nutritionist through V-Chat.	Fitness Freak	Fitness freak	Medium	UC-09 UC-07	TC-36.5
SRS-37.1	Fitness freak should be able to visit the profile of the exercise trainer.	Fitness Freak	Fitness freak	High	UC-09	TC-37.1
SRS-37.2	Fitness freak should be able to check the professional details of exercise trainer.	Fitness Freak	Fitness freak	High	UC-02, UC-09	TC-37.2
SRS-37.3	Fitness freak should be able to request the exercise trainer to get time and for consultation.	Fitness Freak	Fitness freak	Low	UC-09, UC-07	TC-37.3
SRS-37.4	System shall be able to notify the fitness freak when the request is accepted by the exercise trainer.	Fitness Freak	Management Department	Medium	UC-09	TC-37.4
SRS-37.5	Fitness freak shall be able to consult exercise trainer through V-Chat.	Fitness Freak	Fitness freak	Medium	UC-07	TC-37.5
SRS-38.1	Fitness freak should be able to connect with available friends on the system and share health record and exercise together.	Fitness Freak	Fitness freak	Low	UC-07	TC-38.1
SRS-38.2	The system should allow fitness freak to consult with exercise trainer and nutritionist	Fitness Freak	Management Department	High	UC-08, UC-09	TC-38.2
SRS-38.3	The system should allow to keep the record of online consultations.	Fitness Freak, nutritionist, trainer	Management Department	Low	UC-07, UC-08, UC-09	TC-38.3
SRS-38.4	The system should allow to delete the history of using V Chat.	Fitness Freak, nutritionist, trainer	Management Department	Medium	UC-07	TC-38.4
SRS-39.1	The system should allow fitness freak to select payment method	Fitness freak, manager	Management Department	High	UC-12	TC-39.1

SRS-39.2	Fitness freak should be able to enter the fee of nutritionist and exercise trainer.	Fitness freak	Fitness freak	High	UC-12	TC-39.2
SRS-39.3	The system should be able to save the payment record.	Fitness freak	Record Management Department	Medium	UC-12	TC-39.3
SRS-39.4	The system should be able to detect if the payment entered by the fitness freak is less than the fee of nutritionist or exercise trainer then display error.	Fitness Freak, manager	Record Management Department	High	UC-12	TC-39.4
SRS-39.5	The system should be able to send a notification message through provided email when payment is done by the fitness freak.	Fitness Freak, manager	Record Management Department	Medium	UC-12	TC-39.5
SRS-39.6	Fitness freak should be able to delete payment record.	Fitness Freak, manager	Management Department	Medium	UC-12	TC-39.6

Artifact-6

Test cases

SRS-No.	Requirements Description	Test Data	Expected Result	Actual Result	Pass/Fail	Test Case-Id
SRS-1.1	The DiexFit-Health and Fitness Management System allows fitness freak, nutritionist, exercise trainer and manager to login by entering credentials (i.e., Username, Password, Phone number, and valid Email address).	Logged in if Username, phone number, E-mail aren't used before: Username, Password, phone number, E-mail are below, i.e. 1. JohnSmith Jsmith12, +93 6369812908, js@gmail.com . 2. User123 Pass12!@ , +93 9873841686, user123@gmail.com .	1. The user should be successfully logged in. 2. The user should be successfully logged in.	TBD	TBD	TC-1.1
SRS-1.2	The fitness freak, nutritionist, exercise trainer and manager should enter a password that comprises of at least 4 characters, 2 digits and 2 symbols	Password: 1. P@sswOrd 2. Pa\$\$wOrd123	1. The password should be rejected and an error message should be displayed. 2. The password should be accepted.	TBD	TBD	TC-1.2
SRS-1.3	The system should display a message that an account with this email already exists if fitness freak, nutritionist, exercise trainer and manager use the existing email again.	1. Enter an already used Email for sign up i.e., existing@example.com . 2. Use a unique Email number i.e., user1@example.com .	1. Display error message. 2. Continue for Account creation.	TBD	TBD	TC-1.3
SRS-1.4	The fitness freak, nutritionist, and exercise trainer and manager should be able to reset password through email if they forget it.	Email: johndoe@example.com	The user should receive a password reset link to their registered email address.	TBD	TBD	TC-1.4
SRS-1.5	The fitness freak, nutritionist, exercise trainer and manager would be able to login again after 2 hours if they enter incorrect credentials 5 times.	Username and password: 1. Username: "testuser", Password: "incorrect1" 2. Username: "testuser", Password: "incorrect2" 3. Username: "testuser", Password: "incorrect3" 4. Username: "testuser", Password: "incorrect4" 5. Username: "testuser", Password: "incorrect5"	The system should display a message informing the fitness freak, nutritionist, exercise trainer and manager that they have entered incorrect credentials for the 5th time and their account is blocked from logging in for the next 2 hours. After the 2-hour period of their last try they should be able to attempt login again.	TBD	TBD	TC-1.5
SRS-2.1	The fitness freak, nutritionist, exercise trainer and manager should provide a username and password for the system.	User Type: Fitness Freak - Username: "johnfitt"	The system should accept and store the provided username and password for	TBD	TBD	TC-2.1

		<ul style="list-style-type: none"> - Password: "password123" User Type: Nutritionist - Username: "marynutrition" - Password: "mypassword" 	the Fitness Freak and Nutritionist.			
SRS-2.2	The password should be having at least 5 digits or characters.	Password: <ol style="list-style-type: none"> 1. Pass 2. Pa\$\$wOrd123 	1. The system should reject the password that has less than 5 characters. 2. The system should accept the password as it has 5 characters.	TBD	TBD	TC-2.2
SRS-2.3	The fitness freak, nutritionist, exercise trainer and manager should provide photo 45mm x 35mm.	Provided photo: <ol style="list-style-type: none"> 1. 45mm x 35mm. 2. 35mm x 35mm. 	1. The system should reject the photo which is higher or less than 45mm x 35mm. 2. The system should accept and store the photo which is exactly 45mm x 35mm.	TBD	TBD	TC-2.3
SRS-2.4	The fitness freak, nutritionist, exercise trainer and manager should provide age, gender, height and weight.	Age: 25 Gender: Male Height: 180 cm Weight: 75 kg	1. The system should accept and store the provided age, gender, height, and weight.	TBD	TBD	TC-2.4
SRS-2.5	The system should increment the age by 1, after 365 days of entered date of birth at 12:00 am.	1. Date of Birth: July 16, 1992, at 12:00 am Current Date: July 16, 2023, at 12:00 am 2. Date of Birth: March 10, 2000, at 12:00 am Current Date: March 10, 2023, at 12:00 am	1. The system should display the age as 31 years. 2. The system should display the age as 23 years.	TBD	TBD	TC-2.5
SRS-2.6	The fitness freak, nutritionist, and exercise trainer shall be able to update profile information at any time.	1. User Type: Fitness Freak Username: "johnfitt1" Password: "pa\$\$word13" 2. Username: "marnutrition" Password: "mypa\$\$word"	The system should allow the fitness freak, nutritionist, and exercise trainer to log in to their personal dashboard, where they can access their profile information.	TBD	TBD	TC-2.6
SRS-3.1	The system should display the list of health metrics i.e., BP, Heartrate, Body temperature and Oxygen level.	System displayed the updated health metrics i.e., BP, Heartrate, Body temperature and Oxygen level.	The system should display the list of health metrics: BP Heart rate, Body temperature, and Oxygen level.	TBD	TBD	TC-3.1
SRS-3.2	The fitness freak should put the thumb on the sensor for 1 minute to measure the Bp, Heartrate, Body temperature and oxygen level.	TYPE: 1. Thumb sensor 2. Finger sensor	1. The system should start measuring and complete the measurement after 1 minute. 2. The system should not start measuring and display an error message	TBD	TBD	TC-3.2

			on the screen prompting them to use the correct sensor type.			
SRS-3.3	The system should display the BP and also display that BP is normal if it is $80\text{mmHg} \leq \text{BP} \leq 120\text{mmHg}$ else the system should display BP is low if it is less than 80mmHg and BP is high if it is greater than 120 mmHg .	BP Reading: 1. 110mmHg 2. 70mmHg	1. System should display the BP and also display it as normal. 2. System should display the BP and also display it as low.	TBD	TBD	TC-3.3
SRS-3.4	The system should display the heartrate and display that heartrate is normal if the range if from 60-100bpm else display that heartrate is low if it is less than 60 bpm and heartrate is high is it is greater than 100 bpm.	Health Metrics: 1. Heart rate: 70 bpm, 2. Heart rate: 100 bpm,	1. The system should display the heartrate reading as 75 bpm, and indicate that it is normal. 2. The system should display the heartrate reading as 100 bpm, and indicate that it is High.	TBD	TBD	TC-3.4
SRS-3.5	The system should display the body temperature in Fahrenheit and degree Celsius.	Body Temperature reading: 1. 37°C 2. 99°F	1. The system should display body temperature and also display it in Fahrenheit 2. The system should display body temperature and also display it in Celsius.	TBD	TBD	TC-3.5
SRS-3.6	The system should display the oxygen level and display that oxygen level is normal if it is 95% or higher else display that oxygen level is low if it is less than 95%.	Oxygen reading level: 1. 98% 2. 90%	1. The system should display the oxygen level reading as 98%, and indicate that it is normal. 2. The system should display the oxygen level reading as 90%, and indicate that it is High.	TBD	TBD	TC-3.6
SRS-4.1	The system should display multiple activities such as walking, running, cycling, hiking, and swimming.	User type: Fitness freak	The system should display activities such as walking, running, cycling, hiking, and swimming so that fitness freak can select to track their data activities.	TBD	TBD	TC-4.1
SRS-4.2	The system should accurately track and record the fitness freak's activity data through a sensor.	User type: Fitness freak Activity: 1. Walking for 30 minutes. 2. Swimming for 1 hour	1. The system should accurately track and record the fitness freak's activity data (duration, step counter, distance covered, calories burned) while walking for 30 minutes through a sensor. 2. The system should accurately track and record the fitness freak's activity data (duration, laps swam, distance	TBD	TBD	TC-4.2

			covered, calories burned) while walking for 30 minutes through a sensor.			
SRS-4.3	The fitness freak should be able to view their activity tracking history and progress.	User type: 1. Fitness freak 2. Exercise trainer	1. The fitness freak should be able to view their activity tracking history and progress (duration, step counter, distance covered, calories burned) for each activity they have tracked on the system. 2. The Exercise trainer should be able to view their client's activity tracking progress (duration, step counter, distance covered, calories burned) for each activity they have tracked on the system.	TBD	TBD	TC-4.3
SRS-4.4	The system should provide notification of duration of each activity at 12.am performed by fitness freak in 24 hours.	1. Running for 40 minutes at 6 am. 2. Hiking for 1 hour at 3pm.	1. The system should provide notification to the fitness freak at 12 am indicating the duration of each activity performed (Running for 40 minutes) they performed at 6am. 2. The system should provide notification to the fitness freak at 12 am indicating the duration of each activity performed (hiking for 1 hour) they performed at 3pm.	TBD	TBD	TC-4.4
SRS-5.1	The system should accurately count steps through sensor and display the number of steps taken by the fitness freak in a day.	Step counted: 12000	The system should accurately count steps using a sensor and display the number of steps taken by the fitness freak in a day as 12000.	TBD	TBD	TC-5.1
SRS-5.2	The sensor should be at a maximum distance of 50 cm from the fitness freak for accurate counting.	Distance of sensor: 1. 45 cm 2. 60 cm	1. Successfully counted 2. Do not count if the distance is greater than 50cm from the sensor.	TBD	TBD	TC-5.2
SRS-5.3	The fitness freak shall be able to view their step count history per week.	Duration: 1. 1 week 2. 1 month	1. View history as its within week. 2. Can't view history after passed 1 week	TBD	TBD	TC-5.3
SRS-5.4	The system should increment the counter by 1 with each step.	Step taken: Before: 3089 steps at 12:17pm 23 July 2023.	Should be increment by 1 if further fitness freak takes any step and display it as the updated counted.	TBD	TBD	TC-5.4

		After taking 40 steps more: Before: 3129 steps at 12:50pm 23 July 2023.				
SRS-6.1	The fitness freak shall be able to set his/her time for sleeping and system should give a reminder at that time.	User Type: Fitness Freak - Sleep Time: 10:00 PM - Reminder Tone: Gentle music	Fitness freak successfully set their sleep time with a remainder tone	TBD	TBD	TC-6.1
SRS-6.2	The fitness freak shall be able to set his/her time for waking and system should give a reminder at that time.	- Wake Time: 8:30 AM - Reminder Tone: Nature sounds	Fitness freak successfully set their waking timer with a remainder tone	TBD	TBD	TC-6.2
SRS-6.3	The fitness freak should be able to select the reminder tone.	- Reminder Tone: Soft chime	Fitness freak successfully select their remainder tone	TBD	TBD	TC-6.3
SRS-6.4	The fitness freak shall be able to change the time set for sleeping and waking.	User Type: Fitness Freak Current Sleep Time: 10:00PM New Sleep Time: 11:00 PM	Successfully change their sleeping and waking time.	TBD	TBD	TC-6.4
SRS-7.1	The system should keep the track of the number of hours and minutes fitness freak spends daily on screen.	Screen time: 2 hours 30 minutes	The system keeps track of fitness freak screen time and display the screen time.	TBD	TBD	TC-7.1
SRS-7.2	The fitness freak shall be able to view the screen time history per day.	Actual Date: 16 July 2023, Time: 12:17 am 1. Displayed Date: 16 July 2023, Time: 3:11 pm, screen time: 30 minutes 2. Displayed Date: 16 July 2023, Time: 3:11 pm screen time: 50 minutes	1. Successfully show screen time 2. Don't show screen time	TBD	TBD	TC-7.2
SRS-7.3	The fitness freak shall be able to set screen time per day.	Screen time: 50 minutes Time consumed: 50 minutes	Successfully set the screen time and displayed as 50 minutes.	TBD	TBD	TC-7.3
SRS-7.4	The fitness freak must receive notification from the system in case the set time exceeds.	Screen time: 50 minutes Time consumed: 1 hour	Successfully set the screen time and displayed the exceed time (if exceed) as 50 minutes, 10 minutes exceed.	TBD	TBD	TC-7.4
SRS-8.1	The system should provide available exercises options.	User Type: Fitness Freak	System should show fitness freak available exercises to choose from such as cardio, strength training, and yoga.	TBD	TBD	TC-8.1
SRS-8.2	The fitness freak shall be able to view exercise instructions in details.	User Type: Fitness Freak Exercise Selected: Push-ups	The fitness freak shall be able to see proper guide like proper form and technique for the exercise to the selected exercise.	TBD	TBD	TC-8.2
SRS-8.3	The system should also provide videos for the available exercises.	User Type: Fitness Freak Exercise Selected: Plank	The fitness freak shall be able to see proper video guide for the exercise to the selected exercise.	TBD	TBD	TC-8.3

SRS-8.4	The system should keep the record of fitness freak's performed exercises and their time.	User Type: Fitness Freak Exercise Selected: jumping jack Exercise time:10 minutes	The system should record fitness freak performance exercise (jumping jack) and time to the selected exercise (10 minutes).	TBD	TBD	TC-8.4
SRS-8.5	The system should remind the fitness freak to rest if exercise time exceeds than 1 hour.	User Type: Fitness Freak 1. Exercise time:45 minutes 2. Exercise time:1 hour 15 minutes	1. System should not remind fitness freak 2. System should remind fitness freak	TBD	TBD	TC-8.5
SRS-9.1	The fitness freak shall be able to set days for keeping fast.	User Type: Fitness Freak Fasting days: Monday, Wednesday, Friday.	Successfully able to set the fasting days according to fitness freak preference.	TBD	TBD	TC-9.1
SRS-9.2	The fitness freak shall be able to set time eat after.	Eating time: 6:17 pm	Successfully able to set the fast ending time according to fitness freak preference.	TBD	TBD	TC-9.2
SRS-9.3	The system should give a reminder to eat at the set time.	Eating time: 6:17 pm	The system should give a remainder at provided time (at 6:17 pm).	TBD	TBD	TC-9.3
SRS-9.4	The fitness freak should be able to change the set days and time.	Fasting days: Monday, Wednesday, Friday. Eating time: 6:17 pm	Should able to change the fasting days and time according to fitness freak preference.	TBD	TBD	TC-9.4
SRS-9.5	The system should keep the history of intermediate fasting.	Fasting days: Monday, Wednesday, Friday. Eating time: 6:17 pm Duration: 15 hours	show history including days, eating time and duration.	TBD	TBD	TC-9.5
SRS-10.1	The system shall be able to calculate total time fitness freak spends on workout.	User Type: Fitness Freak Workout time: 1 hour 30 minutes.	calculate workout time and display it.	TBD	TBD	TC-10.1
SRS-10.2	The system should make a chart of the workout time progress in a month.	User Type: Fitness Freak Workout time progress for this month: 40 hours.	display workout history of calculated time progress and total of it	TBD	TBD	TC-10.2
SRS-10.3	Fitness freak shall be able to view their workout time history daily.	User Type: Fitness Freak Date:12/7/2023	Shall successfully see their workout history (even of specific date)	TBD	TBD	TC-10.3
SRS-10.4	Fitness freak shall be able to delete their workout history	User Type: Fitness Freak Date:12/7/2023	Shall successfully delete the workout history.	TBD	TBD	TC-10.4
SRS.11.1	The system shall maintain a history record of all exercises which is entered by the fitness freak including the type of exercise, duration, day, and time	Types of exercises, duration, day, and time Squad 20 min Everyday 4:00 pm	Fitness freak history record is maintained and display on the dashboard.	TBD	TBD	TC-11.1
SRS.11.2	The fitness record of each exercise should also be available separately with day, date, time and duration	Every exercise is available with day, date, and duration. Every day at 3:00 pm for 20 seconds.	Record is maintained	TBD	TBD	TC-11.2
SRS.11.3	Fitness freaks shall be able to view their fitness record for each day in a month.	The system provides different options, the fitness selects the option that they want.	Display fitness record	TBD	TBD	TC-11.3

SRS.11.4	The fitness freak shall be able to delete the fitness records.	The system provides different options, the fitness selects the option that they want.	Delete the record which fitness freak wants .	TBD	TBD	TC-11.4
SRS.11.5	The visualization of history records shall be represented in the form of charts or graphs.	Fitness login to the account with email and password system has given an option to the fitness freak to display history record in the form of chart or graph.	The fitness freak chooses an option to display record whether in the form of chart or graph.	TBD	TBD	TC-11.5
SRS.12.1	The system should allow the fitness freak to enter the food items.	Fitness freak should enter the food items which nutritionist tell to his / her.	Display different food items	TBD	TBD	TC-12.1
SRS.12.2	The system automatically calculates the calories in kcal and Joules for each food item.	When we enter the food, the system automatically calculates the food.	Display food item with units.	TBD	TBD	TC-12.12
SRS.12.3	The system shall maintain a history of calories intake per meal on a dashboard.	Fitness freak login to the account with email and password.	Display calorie records on the dashboard.	TBD	TBD	TC-12.3
SRS.12.4	Fitness freaks shall be able to add picture of the food eaten in a day.	First of all , fitness freak login to the system and then add the picture .	To remember what they eat in a day.	TBD	TBD	TC-12.4
SRS.12.5	The system shall be able to provide food categories to enter the food item.	Our system provide different categories item of food .	Display different food categories	TBD	TBD	TC-12.5
SRS.13.1	The system allows the fitness freak to set their goal for each activity and exercise per day.	Fitness freak set goal activity and exercise.	Goal has been set	TBD	TBD	TC-13.1
SRS.13.2	The fitness freak should be able to set different goals for different activities and exercises for different days of the week.	Fitness freak set goals for each activity with duration, day, and time.	Fitness freak goal has been set	TBD	TBD	TC-13.2
SRS.13.3	The system automatically tracks the fitness freak's progress toward their goals though sensor.	Track goal with sensor	Tracking show on the dashboard.	TBD	TBD	TC-13.3
SRS.13.4	The system should display the fitness freak's goals against each activity and exercise on the dashboard.	Fitness freak set goals for each activity with duration, day, and time.	Tracking display on the dashboard.	TBD	TBD	TC-13.4
SRS.13.5	The system notifies the fitness freak when they have completed their goals else display a motivation quote at the end of the day if the goal is unable to be fulfilled.	The system gives a notification to complete the goals and motivational quotes.	Display message if goal is completed and give notification of motivated quotes	TBD	TBD	TC-13.5
SRS.14.1	The system should be able to track the fitness freak's progress and give achievements in the form of medals.	The system give notification to achieve an award	Display award on the dashboard	TBD	TBD	TC-14.1
SRS.14.2	The system should allow the fitness freak to share their achievements with their friends, family, and social media platforms.	The system has an option to share fitness freak success with others.	Share with co-workers, family and friends.	TBD	TBD	TC-14.2
SRS.14.3	The system shall be able to give a notification when they achieve a reward	The system give notification to achieve an award,	Display award on the dash board.	TBD	TBD	TC-14.3

SRS.14.4	The system shall maintain the history of achievements in a month.	The system displays how many times fitness freak achieves an reward.	Maintained history	TBD	TBD	TC-14.4
SRS.14.5	The fitness freak shall be able to delete the history of the achievements	Login to the system with email	Delete the history.	TBD	TBD	TC-14.4
SRS.15.1	The fitness freak must be able to set reminders for specific activities.	Fitness freak set reminder for different activities	Reminder set for reminding the fitness freak.	TBD	TBD	TC-15.1
SRS.15.2	The system should be able to track the fitness freak's activities, if the activity has not been performed in 24 hours then give a reminder to complete this activity.	The system reminder the fitness for different activities if they not complete in 24 hours the system gives a notification to complete it.	Display notification to complete the remaining activity.	TBD	TBD	TC-15.2
SRS.15.3	The system shall display the reminder in the form of motivational quotes or a direct message.	Fitness freak receive a reminder	Display a motivational quote.	TBD	TBD	TC-15.3
SRS.15.4	The system allows the fitness freak to set the timing of their reminders.	Fitness freak can set timings.	Display different timings on the dashboard.	TBD	TBD	TC-15.4
SRS.15.5	The system should allow the fitness freak to change the reminder settings including the sound, vibration, and displaying format.	Fitness freak changes the reminder settings, changes the sound, and vibration, and selecting pop up display.	The system should confirm to update the settings and save it.	TBD	TBD	TC-15.5
SRS.16.1	The system should be able to provide different languages for fitness freaks, nutritionists, exercise trainers and managers to use the system.	Fitness freaks, nutritionists, exercise trainers and managers have option to select the language.	The system updates it and saves it.	TBD	TBD	TC-16.1
SRS.16.2	The system shall allow the fitness freaks, trainers, nutritionists and manager to use the system in dual languages.	Fitness freaks, nutritionists, exercise trainers and managers have option to select the two the languages at a time.	The system should display all information in both language.	TBD	TBD	TC-16.2
SRS.16.3	The system shall display subtitles in English if the fitness freak, nutritionist, exercise trainer and manager	Fitness freak, nutritionists, exercise trainers, and managers set the systems.	Display the subtitles in English	TBD	TBD	TC-16.3
SRS.16.4	The system allows the fitness freak to change the language at any time.	Fitness freak changes the language during the work out session.	The system updates it and display .	TBD	TBD	TC-16.4
SRS.17.1	The system shall be able to provide video chat functionality. This functionality should support audio communication and high-quality video streaming.	V chat between fitness freak , nutritionist, trainer and manager	The system should establish the V chat	TBD	TBD	TC-17.1
SRS.17.2	The system shall allow the fitness freak to share their health and fitness record with friends using the system through video chat.	Fitness freak share their record with friends during a V chat.	Share health and fitness record.	TBD	TBD	TC-17.2

SRS.17.3	The fitness freak, nutritionist and exercise trainer shall be able to accept or reject the incoming V chat request.	fitness freak, nutritionist and exercise trainer receive a V chat request.	The system displays a notification to accept or reject	TBD	TBD	TC-17.3
SRS.17.4	The system should track and display the fitness freak performance during group exercise sessions	Fitness freak participates in a group session	Track the performance	TBD	TBD	TC-17.4
SRS.17.5	The system shall be able to allow the fitness freak to schedule group exercises with their friends, and the ability to set the date, time, and type of exercise.	Fitness freak have the opportunity to set the schedule : date , time and type of exercise	Display a schedule on the dashboard	TBD	TBD	TC-17.5
SRS.17.6	The fitness freak shall also be able to have video consultation with the nutritionist or exercise trainer through V chat.	Fitness freak has option to consult with nutritionist or exercise trainer through V chat.	The system establish a V chat between fitness freak and nutritionist or exercise trainer	TBD	TBD	TC-17.6
SRS.18.1	The system shall allow the fitness freak to easily reset their fitness goals.	Fitness freak easily reset their goals.	The system updates and saves it.	TBD	TBD	TC-18.1
SRS.18.2	The system shall be able to update all data when a goal is reset or modified.	Fitness freak modify their daily intake of calories.	The system update.	TBD	TBD	TC-18.2
SRS.18.3	The fitness freak shall be able to reset goal of each activity and exercise separately.	Fitness freak easily reset their goals.	The system updates and saves it.	TBD	TBD	TC-18.3
SRS.19.1	The system should keep an eye on user login and detect when a user account is logged in from an unknown device.	Fitness freak log into the system to the previous account.	Maintained privacy	TBD	TBD	TC-19.1
SRS.19.2	The system shall ask the fitness freak to enter code sent on provided email to verify identity before allowing access to the new device.	When fitness freak logs into another device, the system gives a message for verification.	Maintained privacy	TBD	TBD	TC-19.2
SRS.19.3	The system shall be able to allow the fitness freak to set the privacy settings such as biometric and two-factor authentication.	Fitness freak set the privacy settings to enable biometrics authentication and two-factor authentication.	Secure the data	TBD	TBD	TC-19.3
SRS.19.4	The system shall allow the fitness freak to view and manage the devices that are currently logged into their account.	Fitness freak can view and manage the devices that are currently logged in devices.	Maintained privacy	TBD	TBD	TC-19.4
SRS.19.5	If the fitness freak account is accessed on another device, and the verification is not completed within 2 minutes, the system doesn't provide access of the system to the new device	Fitness freak logs the account from another device or a new one but fails to log in if verification is not complete in 2 minutes.	Maintained privacy	TBD	TBD	TC-19.5
SRS.20.1	The Fitness freak shall be able to choose from commonly used units such as meters/feet for height, kilograms/pounds for weight, and	The fitness freak has different options for choosing measurements from one unit to another.	The system automatically converts and displays	TBD	TBD	TC-20.1

	calories/kilojoules for calorie measurement					
SRS.20.2	The system should automatically convert all the measurement to the selected units of measurement and display them.	Fitness freak switch measurements	The system automatically converts and displays	TBD	TBD	TC-20.2
SRS.20.3	The fitness freak shall be able to provide the desired unit for conversion other than the available ones.	The fitness freak have different option for choose measurements from one unit to another.	The system automatically converts and saved.	TBD	TBD	TC-20.3
SRS.20.4	This system should provide basic conversion from one unit to another in a table.	The should provide table	Update the system and convert it.	TBD	TBD	TC-20.4
SRS.21.1	The Fitness freak shall be able to download articles for offline access.	Fitness freak selects a specific article for download.	The system should successfully download the selected article, and once completed, the article should be accessible offline.	TBD	TBD	TC-21.1
SRS.21.2	The system manager shall be able to add articles covering health, fitness, nutrition, and well-being to offer a huge range of content.	System manager adds an article focused on cardiovascular health.	The system should accept the new health article, make it available for users.	TBD.	TBD	TC-21.2
SRS.22.1	The system should provide range of theme options, such as light mode, dark mode, colors and design.	User chooses the light mode theme option.	The system should switch to a light-colored theme, providing a visually bright and clear interface.	TBD	TBD	TC-22.1
SRS.22.2	The fitness freak, nutritionists, exercise trainers and manager shall be able to add theme	A nutritionist customizes the color scheme to match their preferences.	The system applies the chosen colors, giving the nutritionist a personalized look.	TBD.	TBD	TC-22.2
SRS.22.3	The fitness freak, nutritionists, exercise trainers and manager shall be able to have eye protection mode to easily use the system. Top of Form	A fitness freak turns on the eye protection mode.	The system successfully adjusts the color ,brightness, eye protection.	TBD	TBD	TC-22.3
SRS.22.4	Each theme should work well, and fits on different screens, like computers, phones, smart watch.	A fitness freak selects a theme on their computer.	The selected theme to the computer screen, maintaining a visually appealing and user-friendly layout.	TBD	TBD	TC - 22.4
SRS.23.1	The fitness freak, nutritionists, exercise trainers and manager shall be able to provide review and suggestions for improvement in the system.	A fitness freak provides feedback on the workout tracking feature	The system successfully records the feedback and notifies the development team for consideration.	TBD.	TBD	TC-3.1
SRS.23.2	The system should have star rating allowing to give rating to their overall experience with the system.	A fitness freak gives a 3-star rating for the workout tracking features.	The system successfully done a 3-star rating for the workout tracking features.	TBD	TBD	TC-23.2
SRS.24.1	The system should conduct quizzes weekly on health, training, or nutrition.	The system sends a notification to all users about the upcoming weekly health quiz.	Users receive timely notifications to participate in the health quiz.	TBD.	TBD	TC-24.1
SRS.24.2	The system should allow fitness freaks to compare their quiz results with others in the community. Top of Form	A fitness freak navigates to the overall quiz leaderboard.	The system displays a leaderboard showing the top	TBD	TBD	TC-24.2

			quiz performers in the community.			
SRS.24.3	The system should maintain the history of the solved quizzes.	A fitness freak checks their personal profile to view the history of quizzes they have solved.	The system displays a list of quizzes the fitness freak has participated in and their results.	TBD	TBD	TC - 24.3
SRS.25.1	The fitness freak shall be able to select their exercise target area.	User selects "Abs" as the primary target area.	"Abs" exercises are successfully displayed for the user.	TBD.	TBD	TC- 25.1
SRS.25.2	The fitness freak shall be able to select more than one target area if they want to work on multiple body parts during their workout.	A fitness freak targets "Upper Body" and "Lower Body" for a balanced workout.	System suggests a workout routine that covers exercises for both the upper and lower body muscle groups.	TBD	TBD	TC - 25.2
SRS.25.3	The system should suggest relevant exercises associated with the chosen target areas.	Fitness freak selects "Full Body" as the exercise target area.	The system suggests a variety of full-body exercises .	TBD.	TBD	TC- 25.3
SRS.26.1	The fitness freak shall be able to select a variety of fitness challenges available within the system	Fitness freak chooses to join the "Weight Loss Challenge" within the system.	The system creates a personalized plan with workouts and diet tips for weight loss.	TBD	TBD	TC- 26.1
SRS.26.2	The system should include challenge level.	Fitness freak selects "Advanced" as their exercise level.	Successfully "Advanced" is set as the user's exercise level.	TBD.	TBD	TC- 26.2
SRS.26.3	The system should provide relevant challenges associated with the chosen target areas Top of Form	Fitness freak selects "legs " as the target area and looks for challenges.	The system successfully challenges like "Legs Challenge".	TBD	TBD	TC- 26.3
SRS.26.4	The system should maintain the history of completed challenges.	Fitness freak checks their profile to view completed challenges	The system displays a history of previously completed challenges	TBD	TBD	TC - 26.4
SRS.27.1	The fitness freak shall be able to input their height and weight easily	Fitness freak Height - 160 cm, Weight - 60 kg	The system should accept the valid input and store the data accurately in the user's profile.	TBD.	TBD	TC- 27.1
SRS.27.2	The system should I Implement the standard Body Mass Index (BMI) formula: $BMI = \text{weight (kg)} / (\text{height (m)})^2$.	Fitness freak Height - 130 cm, Weight - 50 kg	The system should calculate the BMI as per the formula and display the result to the user (e.g., $BMI = 22.49$).	TBD	TBD	TC - 27.2
SRS.27.3	The system should support both pounds and kilograms for weight and inches and meters for height	Weight - 70 kg, Height - 1.75 m	The system should directly use the provided units for BMI calculations and display the result.	TBD.	TBD	TC- 27.3
SRS.27.4	The system should display the BMI result along with corresponding BMI categories such as Underweight, Normal, Overweight, help to input their BMI value.	Weight - 50 kg, Height - 1.70 m	The system should calculate BMI (17.30) and display "Underweight" as the category .	TBD	TBD	TC- 27.4
SRS.28.1	The fitness freak shall be able to easily select their exercise level.	The fitness freak selects "High Activity" exercise level	The System saves "High Activity" to the user's profile.	TBD.	TBD	TC- 28.1
SRS.28.2	The system should provide clear descriptions for each exercise level such as Beginner, Intermediate, and Advanced to guide us in making suitable selections.	The fitness freak selects the Advanced level.	The system provides an explanation of the Advanced level, and "Advanced" is stored in the user's profile.	TBD	TBD	TC - 28.2

SRS.28.3	The fitness freak shall be able to select different exercise level for different exercises. Top of Form	The fitness freak selects Running - Advanced,	The system saves the different exercise levels for each activity in the user's profile.	TBD	TBD	TC-28.3
SRS.29.1	The fitness freak shall be able to a select meal preference.	The fitness freak selects a "Vegetarian" meal	The system saves "Vegetarian" meal activity in the user's profile	TBD.	TBD	TC-29.1
SRS.29.2	The system should Provide meal plans with options for weight loss or weight gain.	User quickly switches between weight loss and weight gain goals.	The system promptly adjusts the meal plan based on the new goal, maintaining nutritional balance.	TBD	TBD	TC-29.2
SRS.29.3	The fitness freak shall be able to choose their preferred meal frequency such as three meals a day, or multiple small meals based on their lifestyle	User selects "Three Meals a Day" as the preferred frequency.	The system adjusts meal plans to include three main meals per day, with appropriate nutritional balance.	TBD.	TBD	TC-29.3
SRS.29.4	The system should provide a meal plan that is balanced.	User receives a meal plan with a well-distributed combination of carbohydrates, proteins, and fats.	The system generates a meal plan with balanced ratios suitable for the user's goals.	TBD	TBD	TC-29.4
SRS.30.1	The system should display nutrition information immediately after scanning, so users get instant details about the food.	User scans the barcode of a packaged food item.	The system quickly retrieves and displays nutrition information, including calories, macronutrients, and micronutrients.	TBD.	TBD	TC-30.1
SRS.30.2	The system shall be able to design a user-friendly interface for the barcode scanner.	User navigates to the barcode scanning feature.	The barcode scanner interface is easily accessible through an intuitive navigation pathway.	TBD	TBD	TC-30.2
SRS.30.3	The system shall be able to clearly highlight calories content and provide details of proteins, carbohydrates, fats, and other nutrients present in food.	User accesses detailed nutrient information for a food item.	The system presents a breakdown of proteins, carbohydrates, fats, and other key nutrients in a clear and easily understandable format.	TBD.	TBD	TC-30.3
SRS.30.4	The system should have an efficient barcode scanner.	User initiates the barcode scanner and scans a food item..	The system provides near-instant results, ensuring a fast and responsive user experience.	TBD	TBD	TC-30.4
SRS.31.1	Fitness freak shall be able to add the date when mensuration cycle occurs.	Date : 7 th December,2023	Highlight entered date on the calendar in green color.	TBD	TBD	TC-31.1
SRS.31.2	The system should be able to maintain the history of menstruation cycles.	Mensuration History: Start Date: 1 st Dec,2023 End Date: 7 th Dec,2023 Start Date: 9 th Jan ,2023 End Date: 16 th Jan 2023	History of mensuration cycle is saved.	TBD	TBD	TC-31.2
SRS.31.3	Fitness freak should be able to add the date when mensuration cycle ended.	End Date: 16 th Jan,2023	Highlight end date on the calendar in red color.	TBD	TBD	TC-31.3

SRS.31.4	Fitness freak, should be able to set reminder for the next month before ovulation Fitness freak, should be able to set reminder for the next month before ovulation date.	1.Command to select settings. 2.Command to enable reminders	Display "Reminder is set"	TBD	TBD	TC-31.4
SRS.32.1	The system should allow to select the mode as fitness freak, exercise trainer and nutritionist.	1. Command the system to select mode. 2. Select mode according to the account holder.	Display "Mode is set".	TBD	TBD	TC-32.1
SRS.32.2	The system should be able to allow to complete the profile according to the prescribed role.	1. Select the profile according to the role 2. Command to create profile 3.Complete the profile according to the role e.g. Nutritionist and fitness freak adds his/her degree, diplomas and certificates and fitness freak adds age ,height, weight.	Profile created	TBD	TBD	TC-32.2
SRS.32.3	The system should be able to provide features according to the selected role.	Fitness freak: Consult trainer and nutritionist. Requests trainer and nutritionist for consultation. Fitness freak/ Nutritionist: Accept consultation request.	Features display	TBD	TBD	TC-32.3
SRS.32.4	The system should be able to allow to use dual roles at a time.	Select the second role e.g. Nutritionist select another role fitness freak	Display interface of both 1. Request for consultation to exercise trainer. 2. Accept fitness freak`s consultation request	TBD	TBD	TC-32.4
SRS.33.1	Nutritionist, exercise trainer should be able to add their qualification as a professional.	Professional Details: Qualification: BS English, Diploma holder form abs fitness club Nutritionist: Qualification: BS HND, MS HND	Details are successfully added	TBD	TBD	TC-33.1
SRS.33.2	Nutritionist, exercise trainer should be able to add links and images of their certificates of their field.	Certificates Links: Nutritionist: www.deakin.com Exercise Trainer: www.narsgym.com	Certificate added	TBD	TBD	TC-33.2

SRS.33.3	Nutritionist, exercise trainer should be able to add working experience as a professional.	Working Experience: Nutritionist: 5 years Exercise Trainer: 3 years	Working experience display in profile section	TBD	TBD	TC-33.3
SRS.33.4	Nutritionist, exercise trainer should be able to add date and time to access them through V-Chat.	Available Time: Nutritionist: 10am to 6pm Exercise Trainer: 11am to 8pm	Time display in profile section	TBD	TBD	TC-33.4
SRS.33.5	The system should be able nutritionists and trainers to update their professional details.	Update information: Nutritionist: Available Time: 9am to 5pm Exercise Trainer: Working Experience: 6 years	Display updated information	TBD	TBD	TC-33.5
SRS.34.1	Fitness freak should be able to enable “Daily Motivation”.	1. Command to select “Daily Motivation” 2. Command enable “Daily Motivation”	Daily motivation enabled	TBD	TBD	TC-34.1
SRS.34.2	The system will allow fitness freak to select time to send motivation daily.	Time: 4pm	Send notification of daily motivation daily at 4pm	TBD	TBD	TC-34.2
SRS.34.3	The system will send motivational quote to stay fit and healthy through notification.	Motivation quote: “Our bodies are our gardens, Our wills are our gardener.”	Display quotes daily	TBD	TBD	TC-34.3
SRS.34.4	The fitness freak should be able to select the displaying format of daily motivation.	Displaying format: Quote e.g. “Our bodies are our gardens, Our wills are our gardener.” Message: To spend a healthy life you must have a healthy body	Motivation display according to selected format.	TBD	TBD	TC-34.4
SRS.35.1	Fitness freak should be able to give voice input in selected language to search desired feature.	1. Command to select voice input 2. Give voice input.	Words should be display when fitness freak is saying	TBD	TBD	TC-35.1
SRS.35.2	System should be able to process the voice within 3 seconds.	Give voice input e.g. Cardio Exercise	Display all cardio exercises	TBD	TBD	TC-35.2
SRS.36.1	Fitness freak should be able to visit the profile of the nutritionist.	1. Command search profiles. 2. Enter the name e.g. Zohaib Ahmed	Display profile	TBD	TBD	TC-36.1
SRS.36.2	Fitness freak should be able to check the professional details of nutritionist on the profile	Command to view professional details	Professional details	TBD	TBD	TC-36.2
SRS.36.3	Fitness freak should be able to requests the nutritionist to get time and for consultation	1. Command to select consult nutritionist 2. Requests for consultation according to available time e.g. 10 th dec, 2023 Time: 1pm	Display “wait for accepting request”	TBD	TBD	TC-36.3

SRS.36.4	System should be able to notify the fitness freak when the request is accepted by the nutritionist.	Request Accepted Details: 10 th Dec,2023 at 1pm	Request approved	TBD	TBD	TC-36.4
SRS.36.5	Fitness freak shall be able to consult nutritionist through V-Chat.	Command to search nutritionist name i.e. Zohaib Amed	Consult the nutritionist	TBD	TBD	TC-36.5
SRS.37.1	Fitness freak should be able to visit the profile of the exercise trainer.	1. Command search profiles. 2.Enter the name e.g. Ahmed Ali	Display profile	TBD	TBD	TC-37.1
SRS.37.2	Fitness freak should be able to check the professional details of exercise trainer.	Command to view professional details	Professional details display	TBD	TBD	TC-37.2
SRS.37.3	Fitness freak should be able to request the exercise trainer to get time and for consultation.	1. Command to select consult exercise trainer 2. Requests for consultation according to available time e.g.12 th dec,2023 Time:4pm	Display “ wait for accepting request”	TBD	TBD	TC-37.3
SRS.37.4	System shall be able to notify the fitness freak when the request is accepted by the exercise trainer.	Request Accepted Details: 12 th Dec,2023 at 4pm	Request approved	TBD	TBD	TC-37.4
SRS.37.5	Fitness freak shall be able to consult exercise trainer through V-Chat.	Command to search exercise trainer i.e. Ahmed Ali	Consult the exercise trainer	TBD	TBD	TC-37.5
SRS.38.1	Fitness freak should be able to connect with available friends on the system and share health record and exercise together.	Profile Name: Aina Ali	Display all relevant profiles	TBD	TBD	TC-38.1
SRS.38.2	The system should allow fitness freak to consult with exercise trainer and nutritionist	Profile Name: Hina Khan Profession Nutritionist	Display all relevant profiles	TBD	TBD	TC-38.2
SRS.38.3	The system should allow to keep the record of online consultations.	Record of consultations: Name: Sana Akbr Profession: Exercise Trainer Consultation: 9 th dec,2023at 6pm Name: Hamza Ahsen Profession: Exercise Trainer Consultation: 6 th Nov,2023 at 2pm.	Record is saved to database	TBD	TBD	TC-38.3
SRS.38.4	The system should allow to delete the history of using V Chat.	Command to delete history	Successfully delete history	TBD	TBD	TC-38.4

SRS.39.1	The system should allow fitness freak to select payment method	1.Command to pay fee 2. command to select payment method i.e.,easypaisa, bank transfer, jazz cash	Display “Thank You for trusting us”	TBD	TBD	TC-39.1
SRS.39.2	Fitness freak should be able to enter the fee of nutritionist and exercise trainer.	Fee: 1.Command to select nutritionist or exercise trainer 2.Command to enter fee i.e.1500/-	Successful transaction	TBD	TBD	TC-39.2
SRS.39.3	The system should be able to save the payment record.	Payment Record: Nutritionist: 6000/- Exercise Trainer: 5000/-	Save record in databased	TBD	TBD	TC-39.3
SRS.39.4	The system should be able to detect if the payment entered by the fitness freak is less than the fee of nutritionist or exercise trainer then display error.	Exercise Trainer Fee: 500/-	Display “Error”	TBD	TBD	TC-39.4
SRS.39.5	The system should be able to send a notification message through provided email when payment is done by the fitness freak.	Exercise Trainer Fee:5000- /	Successfully send email	TBD	TBD	TC-39.5
SRS.39.6	Fitness freak should be able to delete payment record.	Command delete	Successfully delete record	TBD	TBD	TC-39.6

Artifact-7

Supplementary Specification

Document

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Supplementary Specification

1. Introduction

This document will mainly focus on the proposed system and how will the DiexFit work. Our system comprises on two main subsystems fitness and health. Our system allows for the monitoring of health metrics and different activities. The existing systems doesn't allow online consultation with nutritionist, exercise trainer, and to share fitness and health records with friends or collaborate with them for exercises. DiexFit ensures a stable functioning of health and fitness activities and comfortable interactions between fitness freaks, nutritionists, manager and trainers. This document will provide a complete overview of the system's services and limitation applied on the system. These subsections i.e. Purpose, Scope, Definitions, Acronyms and Abbreviations, References, and Overview are included in this introduction.

1.1 Purpose

This document aims to provide requirements of the proposed system. In this document we will discuss the requirements that are not considered in use case modeling. Further specification and modeling of the use case defines all requirements of the proposed system. External behavior, non-functional requirements, and design limitations of the system to be built also described in this document.

1.2 Scope

This document contains a thorough examination of the multifaceted functionality of DiexFit, including functional requirements, non-functional requirements, system architecture, and implementation details. It serves as a comprehensive guide to understanding the system's capabilities and how it can effectively support improved health and fitness management. Features of the system are as follows:

- Fitness freak, nutritionist, exercise trainer, and manager can log in to the system
- Add the profile of fitness freak, nutritionist, and exercise trainer
- Measure different health metrics
- Select different physical activities i.e. walking, running
- Count the number of steps taken in a day by fitness freak
- Keep a record of sleeping hours
- Measure the hours of screen usage in a day
- Select different available exercises
- Set time and reminder for intermediate fasting
- View workout time in a day
- Keep record of exercises done in a month or day
- Check approximated calories intake
- Set goals for different activities
- Display achievements in form of medals if goals are achieved
- Give daily reminders to perform exercises
- Select language for system usage
- Connect with pals via V chat
- Reset goals
- Send verification email
- Select unit of measurements
- Read different articles on health and fitness
- Select the theme of the system
- Provide reviews and suggestions
- Conduct quizzes related to health and fitness
- Select target area for exercise
- Accept different health and fitness challenges

- Calculate BMI
- Select level for exercise
- Get a daily meal plan
- Scan the barcode of the food and measure calories
- Maintain the history of ovulation
- Approach the system as a nutritionist, fitness freak, manager, or exercise trainer

1.3 Definitions, Acronyms, and Abbreviations

1.3.1. Acronyms:

SSD --- Supplementary Specification Document
 HFMS --- Health and Fitness Management System
 macOS --- Macintosh Operating Systems
 OS --- Operating Systems
 SQL --- Structured Query Language
 JS --- Java Script
 WebOS--- Web Operating System

1.3.2. Definitions:

SS Document: It affords a top level view of the complete document. Also captures the system requirements that aren't quite simply captured within side the use case of the use-case model.

Microsoft Windows: A institution of many proprietary graphical working machine families.

Linux: A own circle of relatives of open-supply Unix-like working structures primarily based totally at Linux kernel.

webOS: An operating system that runs on smart devices.

IBM OS/2: A series of computer operating systems, initially created by Microsoft and IBM. **SQL:** A programming language that is used in relational databases or data stream management systems.

JS: An object-oriented programming language used by programmers to make web pages attractive. **Ruby:** An interpreted high-level general-purpose programming language.

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1.5 Overview

This system provides additional features that further helps to maintain the health and fitness of fitness freaks. The supplementary specification document is organized into different sections, which includes usability, reliability, performance, support, and design restrictions.

2. **Usability section:** a great attribute that measures how effortless to use the system interface, learnability, and operability.
3. **Reliability section:** describes availability (percent of to-be-had time, quantity of days, hours of use, and entry to preservation), time among failures, how lengthy the system is permitted to live out of labor after failure, robustness, accuracy, most bugs, and mistakes rate.
4. **Performance section:** makes use of FIG statistics to explain the system overall performance characteristics
5. **Supportability section:** Refers back to the inherent capabilities of the system and the system-activating factors that permit green and powerful sustainability (together with preservation and different assist functions) all through the system existence cycle.

- 6. Design Constraints:** layout constraints of proposed system. Such as software program languages, software program system requirements, advised use of improvement tools, and production and layout constraints.

2. Usability

2.1 User Interface:

- UI.1.** The system automatically adjusts the screen size according to the device.
- UI.2.** The system should display a dashboard user interface to overview health and fitness activities.
- UI.3.** The system should show the progress tracking interface with charts or graphs.
- UI.4.** Every element in the system performs a specific task in an order.
- UI.5.** System interface should contain contrast between colors and font for better understanding.

2.2 Operability:

- OPR.1.** 80% of fitness freaks should be able to check completeness of their tasks such as tracking exercise, food intake, and setting goals within 30 seconds and on average 1 minute.
- OPR.2.** The system has a 5 % chance for failure. When the system fails it will give an alert message within maximum 2 minutes and on average 1 minute.
- OPR.3.** 75% trained fitness freaks should be able to consult nutritionist and exercise trainer within maximum 5 minutes on an average 2 minutes.
- OPR.4.** 50% untrained fitness freaks should be able to consult nutritionist and exercise trainer within maximum 10 minutes on an average 5 minutes.

2.3 Learnability:

- LEARN.1.** The system shall have a user- friendly interface in available languages that make it easy to understand for all the fitness freaks, nutritionist, exercise trainer.
- LEARN.2.** The system shall provide interactive tutorials for fitness freak.

3. Reliability:

- REL.1.** The system should be accessible 7 days and 24 hours of a week.
- REL.2.** If the system is not working properly, the system displays a message to update or restart the system.

3.1 Accuracy:

- ACC.1.** The system shall display the personalized diet plan with 100% accuracy.
- ACC.2.** The system shall use high-level algorithms to secure the 100% data.
- ACC.3.** System shall send 4 digits' code to valid email of fitness freak for payment.
- ACC.4.** Fitness freak has to enter code within 1 minute.

3.2 Robustness:

- ROB.1.** While login to the system, if fitness freak enters invalid OTP code for several times. System will alert the account holder to enter valid code. After having 5 attempts, system will give access the fitness freak to login again after 1 hour.
- ROB.2.** When fitness freak log in the system, they must enter the name, email or phone number. An OTP send to the email to log in on the system. If the fitness freak does not enter the name, email or phone number, he\she will not log in the system.

4. Performance

4.1 Simultaneous user

The system shall be able to support 1500 account holder(s) ms^{-1} (per milliseconds).

4.2 Response Time

- PERF.1.** The system should be able to display the HFMS interface within 0.5 seconds.
- PERF.2.** Profiles shall be loaded within 0.5 seconds allowing.
- PERF.3.** Health metrics (such as heart rate and BP) shall display within 1 seconds.
- PERF.4.** Activity tracking data (such as Step taken and calories burned) should be updated after every 0.5 seconds.
- PERF.5.** The step counter feature shall update their step count in real-time within every 0.3 seconds.
- PERF.6.** The sleep score feature shall calculate and display sleep time within every 1 minute.
- PERF.7.** The screen time should be updated and display after every 1 minute.
- PERF.8.** The “workout time” feature should keep track and display the duration of each exercise session and update system after every 0.5 seconds.
- PERF.9.** The food diary feature shall be able to load and display nutrition information within 0.5 seconds.
- PERF.10.** Setting health and fitness goals shall be able to proceed and saved within 0.5 seconds.
- PERF.11.** The fitness freak will get reward on the completion of goal set within 1 seconds.
- PERF.12.** If fitness freak does not perform any activity within 24 hours, it shall display a reminder within 2 seconds.
- PERF.13.** Language selection preference shall be loaded within 0.5 seconds.
- PERF.14.** Fit together feature shall be updated (in real-time) and loaded within 0.5 seconds.
- PERF.15.** The reset goal feature shall process and update fitness freak goals within 1 seconds.
- PERF.16.** Unit of measurements shall be loaded within 0.5 seconds.
- PERF.17.** Articles relevant to our preferences shall be displayed after 0.2 seconds.
- PERF.18.** The display interface shall be presented into an organized manner within 0.2 seconds.
- PERF.19.** Fitness freak reviews on fitness products and services shall be loaded and displayed within 0.2 seconds.
- PERF.20.** Quizzes relevant to health and fitness shall be loaded and displayed within 0.2 seconds.
- PERF.21.** The challenges feature shall provide fitness challenges within 2 seconds.
- PERF.22.** The BMI Calculator shall be able to calculate and display BMI results within 1.5 second.
- PERF.23.** The exercise level feature shall determine and display exercise level based on fitness freak's input within 1 second.
- PERF.24.** The meal plan feature shall generate, also display meal plans within 2 seconds.
- PERF.25.** The system shall be able scan barcode and provide nutritional information within 2.5 seconds.
- PERF.26.** The voice processing feature shall process voice commands (or inputs) within 0.3 seconds.
- PERF.27.** The consult nutritionist feature shall be able to establish a connection for virtual consultation with a nutritionist within 5 seconds.
- PERF.28.** The consult exercise trainer shall establish a connection for virtual consultation with an exercise trainer within 5 seconds.
- PERF.29.** The V-chat feature shall enable real-time connect functionality within 5 seconds.
- PERF.30.** The system shall process payment transactions and provide confirmation within 6 seconds.

5. Supportability

5.1 New Releases Downloadable

- SUP.1.** The HFMS shall provide updates and new release through website (www.hfms.com) for easy access for all account holder(s).
- SUP.2.** Account holders shall be able to download the system's latest versions, including new features, bug fixes, and enhancements from our website.

SUP.3. The website shall provide clear instructions for documentation to upgrade process and for installation.

SUP.4. All the systems that are upgraded shall be downloadable from the same website.

5.2 Maintenance

- MAINT.1.** A dedicated team of service technicians shall be available to ensure the ongoing maintenance of the HFMS.
- MAINT.2.** The maintenance checks should be regular to identify and address any issues in the system.
- MAINT.3.** Maintenance activities shall include performance optimization, bug fixing, security updates, and compatibility checks with new operating systems and browsers.
- MAINT.4.** Account holder shall be notified downtime and of any scheduled maintenance well (in advance) to minimize disruption in their system's usage.
- MAINT.5.** Any reported bugs and issues shall be addressed by the maintenance team through timely updates or patches.
- MAINT.6.** The system must be serviced 12 months in accordance with the approval.

6. Design Constraints

6.1 Platform Requirements

- 3.1.1. The HFMS shall be compatible with wide range of Operating System (OS), including windows, Linux, macOS, iOS.
- 3.1.2. The HFMS shall require a minimalistic storage capacity from 12MB to 20MB on account holder's device.

6.2 Internet Browsers.

- 6.2.1 The HFMS shall be accessible through some popular internet browsers such as Netscape 4.0.4 and internet explorer 4.0.
- 6.2.2 The system shall be designed in such a way to support the features and functionalities (provided by these browsers) for optimistic and perfect account holder experience.
- 6.2.3 The system's compatibility with modern browsers, such as Safari, Firefox, and Chrome, also has to be ensured.

6.3 SQL Compatibility

- 6.3.1 The HFMS shall be compatible with the SQL 1.1 VM (runtime environment), ensuring integration seamless with database management system.
- 6.3.2 The system shall be capable of execute SQL queries (for database operations) efficiently.

7. Lesson Learned:

Throughout our Software Requirements Engineering (SRE) course project, we encounter several valuable lessons. One key takeaway was the importance of this is to an open environment for all team members to express their own ideas and thoughts on it for improvement. Most of all like how the group leader suggested ideas and took suggestions from us too make it more valuable. We actively gave input through meetings, like Zoom and our WhatsApp work group, also the face-to-face sessions at the university where we got to know our mistakes and leaned new things too, especially feedback classes took biggest part in it.

We also learned to know new tools for creating diagrams, refined our research methods, and enhanced our critical thinking skills. A biggest lesson was recognizing the value of being willing to seek and accept input from every team member that we got to know in this project. That's the reason this approach not only increased team productivity, also led to better overall outcomes.

To be more precise, we realized that by communication, we could prevent conflicts either that are big or small, that might otherwise cause some kind of discomfort within the team. Also John C. Maxwell

wrote such a beautiful quote: “Teamwork makes the dreamwork”. This quote highlights the essence and importance of teamwork and how, through communicating and by collaborating, we could achieve such a great success in our project. This quote of Mattie Stepanek added it too:

"Unity is strength... when there is teamwork and collaboration, wonderful things can be achieved." - Mattie Stepanek.

8. Conclusion:

Our project named DiexFit-Health and Fitness Management System extensive platform with a variety of features to improve your health and fitness. You can use them on any device, making it super convenient to manage your health and fitness whenever you want. This system provides various services under the same umbrella, offering ease to fitness freak, nutritionist, and exercise trainer.

It provides facility to measure the progress immediately and receive advices from the experts on how to stay healthy and fit. The system also motivates the fitness freak with goal-setting tools and community support through immediate tracking of exercise. It also functions as an instructional tool, enabling account holders to make knowledgeable decisions regarding their health and fitness. All these features can be achieved whenever and wherever you want. All the above-mentioned features will be part of our initial version of our system. For upcoming versions, we will add more functionalities according to the need of our system's account holder.

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