LogBook : 11

Meeting No: 11   **Date**: 09th March, 2023

Start Time: 10:05 am   **Finish Time**: 10:50 am

Items discussed:

1. In the last meeting, discussion on format and marking scheme of the final report took place along with the diagrams that need to be included on our final report. We were made to understand the importance of all the diagrams of software engineering during our project development process. We were then asked to continue with the development part as well as begin with the final report simultaneously. We are expected to finish the draft of final report within the end of March.

Achievements:

1. **Frontend of Diary page.**
   Accomplished frontend for the diary page that also includes food tracker as well as activity tracker.

2. **Started documenting final year report:**
   Started documentation of the final year report. This week, introduction and background chapter was documented.

3. **Problems (if any):**

1. Not any.

Tasks for Next Meeting:

1. Frontend development dashboard page.
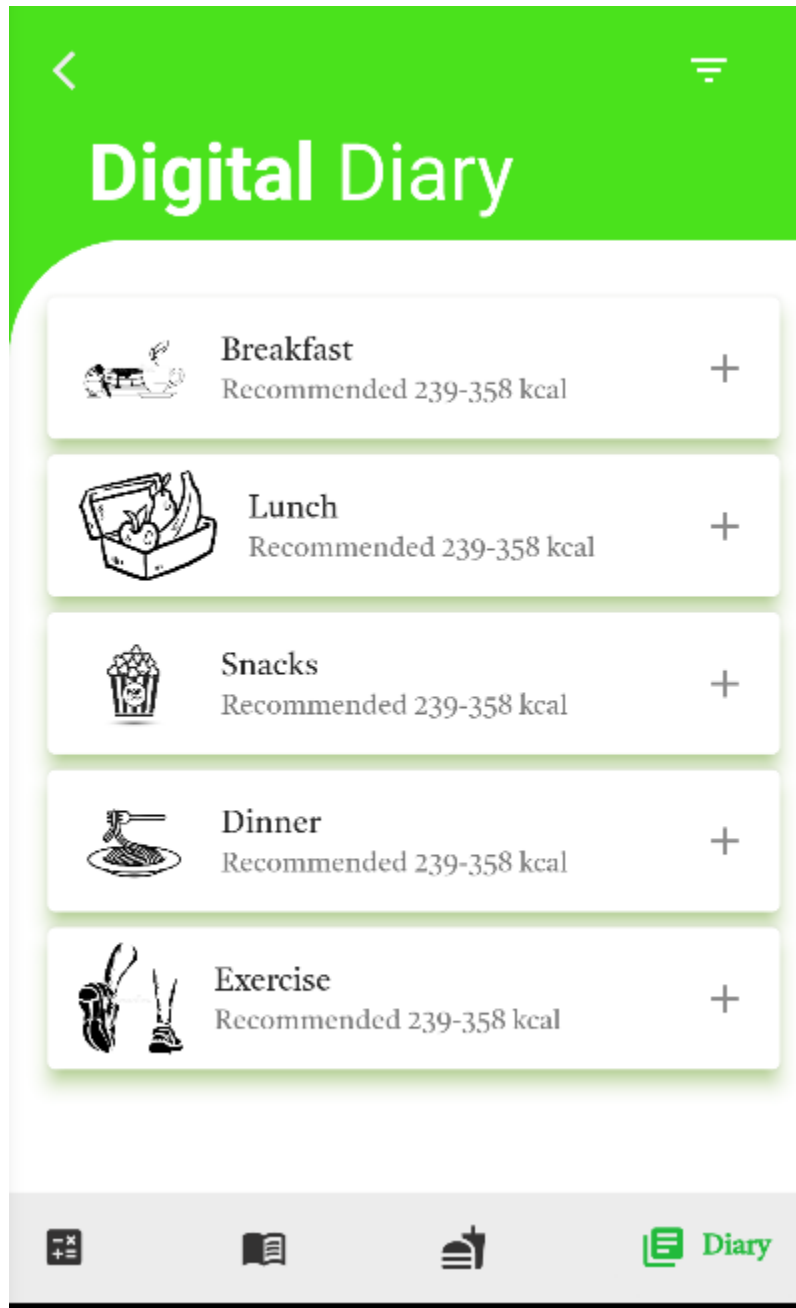2. Methodology chapter of final documentation.

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 Alisha Poudel   Mr. Abhinav Dahal

Proof of my works:

Frontend of Diary Page:

Code:

```dart
1    import 'package:flutter/material.dart';
2
3    import 'diary_screen.dart';
4
5    class DiaryPage extends StatelessWidget {
6      const DiaryPage({super.key});
7      static String path = "/DiaryPage";
8
9      @override
10     Widget build(BuildContext context) {
11       return Scaffold(
12         backgroundColor: const Color.fromARGB(255, 74, 226, 28),
13         body: ListView(
14           children: <Widget>[
15             Padding(
16               padding: const EdgeInsets.only(top: 10.0, left: 10.0),
17               child: Row(
18                 mainAxisAlignment: MainAxisAlignment.spaceBetween,
19                 children: <Widget>[
20                   IconButton(
21                     icon: const Icon(Icons.arrow_back_ios),
22                     color: Colors.white,
23                     onPressed: () {},
24                   ), // IconButton
25                   SizedBox(
26                     width: 80.0,
27                     child: Row(
28                       mainAxisAlignment: MainAxisAlignment.spaceBetween,
29                       children: <Widget>[
30                         IconButton(
31                           icon: const Icon(Icons.filter_list),
32                           color: Colors.white,
33                           onPressed: () {},
34                         ) // IconButton
35                       ], // <Widget>[]
36                     ), // Row
37                   ) // SizedBox
38                 ]), // <Widget>[] // Row
39             ), // Padding
40             const SizedBox(height: 5.0),
41             Padding(
42               padding: const EdgeInsets.only(left: 40.0),
43               child: Row(
44                 children: const <Widget>[
45                   Text('Digital',
46                     style: TextStyle(
47                       fontFamily: 'Lato',
48                       color: Colors.white,
```

```
48              color: Colors.white,
49                  fontWeight: FontWeight.bold,
50                  fontSize: 40.0)), // TextStyle // Text
51          SizedBox(width: 10.0),
52          Text('Diary',
53              style: TextStyle(
54                  fontFamily: 'Lato',
55                  color: Colors.white,
56                  fontWeight: FontWeight.normal,
57                  fontSize: 40.0)) // TextStyle // Text
58      ], // <Widget>[]
59      ), // Row
60      ), // Padding
61      const SizedBox(height: 10.0),
62      Container(
63          height: MediaQuery.of(context).size.height - 185.0,
64          decoration: const BoxDecoration(
65              color: Colors.grey,
66              borderRadius: BorderRadius.only(topLeft: Radius.circular(60.0)),
67          ), // BoxDecoration
68          child: DiaryList(),
69      ), // Container
70      ], // <Widget>[]
71      ), // ListView
72      ); // Scaffold
73    }
74  }
75
```

Screen Page:

```dart
 1   import 'package:flutter/material.dart';
 2
 3   import 'package:fyp_app/model/diary_data.dart';
 4   import 'package:fyp_app/view/bfDetail.dart';
 5   import 'package:fyp_app/view/dinnerDetail.dart';
 6   import 'package:fyp_app/view/lunchDetail.dart';
 7   import 'package:fyp_app/view/snacksDetail.dart';
 8
 9   class DiaryList extends StatelessWidget {
10     DiaryList({super.key});
11
12     final List sRoutes = [
13       const BfDetail(),
14       const LunchDetail(),
15       const SnacksDetail(),
16       const DinnerDetail()
17     ];
18
19     @override
20     Widget build(BuildContext context) {
21       return Column(
22         children: [
23           SizedBox(
24             height: 450,
25             width: 380,
26             child: Padding(
27               padding: const EdgeInsets.only(top: 25),
28               child: ListView.builder(
29                 itemCount: diaryList.length,
30                 itemBuilder: (context, index) {
31                   DiaryData diary = diaryList[index];
32
33                   return Card(
34                     elevation: 8,
35                     shadowColor: Colors.lightGreenAccent,
36                     child: ListTile(
37                       title: Text(diary.title),
38                       subtitle: Text(diary.subtitle),
39                       leading: Image.network(diary.imageUrl),
40                       trailing: GestureDetector(
41                         onTap: () {
42                           Navigator.push(
43                             context,
44                             MaterialPageRoute(
45                               builder: (context) => sRoutes[index])); // MaterialPageRoute
46                         },
47                         child: const Icon(Icons.add)), // GestureDetector
48                     ), // ListTile
```
```dart
48                     ), // ListTile
49                   ); // Card
50                 }), // ListView.builder
51             ), // Padding
52           ), // SizedBox
53         ],
54       ); // Column
55     }
56   }
57
```

Model data:

```dart
class DiaryData {
  String title;
  String subtitle;
  String imageUrl;

  DiaryData({
    required this.title,
    required this.subtitle,
    required this.imageUrl,
  });
}

List<DiaryData> diaryList = [
  DiaryData(
    title: "Breakfast",
    subtitle: "Recommended 239-358 kcal",
    imageUrl:
        "https://thumbs.dreamstime.com/b/breakfast-morning-food-cartoons-black-white-pancakes-cooked-egg-coffee-cup-vector-illustration-graphic-design-148255433.jpg",
  ),
  DiaryData(
    title: "Lunch",
    subtitle: "Recommended 239-358 kcal",
    imageUrl:
        "https://www.clipartmax.com/png/full/13-132038_size-lunch-box-black-and-white.png",
  ),
  DiaryData(
    title: "Snacks",
    subtitle: "Recommended 239-358 kcal",
    imageUrl:
        "https://media.istockphoto.com/id/1328899757/vector/grey-popcorn-in-cardboard-box-icon-isolated-on-white-background-popcorn-bucket-box-vector.jpg?s=612x612&w=0&k=20&c=PVjHnMIMtGYScptrL",
  ),
  DiaryData(
    title: "Dinner",
    subtitle: "Recommended 239-358 kcal",
    imageUrl:
        "https://media.istockphoto.com/id/1293399641/vector/icon-lifting-pasta-with-a-fork.jpg?s=612x612&w=0&k=20&c=K8fKtH_WwIgDZKXFibSvp2yfoOS__C7D1-xzsID06_o=",
  ),
  DiaryData(
    title: "Exercise",
    subtitle: "Recommended 239-358 kcal",
    imageUrl:
        "https://thumbs.dreamstime.com/b/walking-human-legs-line-art-illustrated-image-91097513.jpg",
  ),
];
```

Screenshot of draft report documentation for introduction and background:

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LONDON
METROPOLITAN
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Final Report on:

Diet Diary

Year and Semester

2022-23 Autumn / 2022-23 Spring

Student Name: Alisha Poudel

Student ID: 20048628

Course: BSc (Hons) Computing

Supervisor 1: Mr. Abhinav Dahal

Supervisor 2: Mr. Prasiddha Neupane

DECLARATION

I hereby certify that I am the author of this report and that it is the result of my own research and study. I also attest that I have acknowledged all materials, sources, and references used in its creation, including any books, articles, journals, reports, lecture notes, and other written, oral, or electronic communications. I further promise that the research study that results from this interim report will be original and included in all deliverables. I further attest that I have not previously submitted this assignment or report for evaluation at London Metropolitan University or elsewhere, nor have

I otherwise plagiarized the work of other students or individuals. I certify that I have read and comprehended the policies of the university against plagiarism, cheating, and collusion. I am aware that the London Metropolitan University will take appropriate legal action against me if my statement and commitment are validated.

Student Name: Alisha Poudel

University ID: 20048628

Date: 2023-04-19

ABSTRACT

This documentation provides a thorough overview of all the related activities and methods used up to this point in the project's development. The proposed project aims on improvising healthy eating behaviors of the individuals by assisting them to indulge themselves in mindful eating habits and keeping maintained track of daily calories intake. This project's development has been totally influenced by in-depth analysis of how the health and fitness sector is currently managed in the context of global platforms. The development of this system has been carried out using incremental model   of   software development methodology. As a result of the teachers' and friends' comments, the system has undergone numerous improvements. The highlighted features and functionality of developed system are login, registration, user goals and preferences, BMI calculation, food tracking along with calories, activity tracking, free as well as paid recipe and plans and personalized dashboard. The suggested system boasts professionalism, effectiveness, and peak performance. The development and

reporting work done in-person with the supervisors has been very beneficial in enhancing one's own abilities and expanding one's own knowledge in creating applications that are industry standards.

1. Introduction

1.1   Introduction to the topic

In recent years, there has been a significant transition from a look-centric to a health-centric view of health and fitness. The use of technology has grown significantly in recent years as people strive to maintain a healthy weight and physical fitness. Modern technological advancements have altered how people manage their dietary planning and workout routines. People are becoming more interested in learning about themselves than only their height, weight. Additionally, people nowadays, are interested in learning more about their daily accomplishments, food and calorie intake, body fat percentage, body mass index, calories burnt, etc. The technological advancements emerging and growing in past few years are proven to be useful for everyone who wants to stay active and fit, not just those who frequent the gym frequently.

Food preferences have also been influenced by contemporary technology. In order to provide feedback based on the customers' food selections, various technologies are being employed in food retail establishments, households, and even restaurants. This has shown to quickly change the foods they choose to eat. According to research, 76% of respondents surveyed said they were attempting to make healthier dietary choices at restaurants than they had made ten years prior. (Theuri, 2021)

Pouring some light into the present scenario overall, the hectic and stressful life of people has a directly proportional impact on their eating behaviors and has promoted an unhealthy lifestyle which is slowly increasing the ratio of obese individuals.

Over the past few decades, obesity and overweight have become much more prevalent globally (World Health Organization; WHO, 2018). Nowadays, obesity is acknowledged as a global epidemic with negative socioeconomic and public health effects (WHO, 2018). Adults who are overweight or obese are more likely to have several later health issues that will lower their quality of life and raise their risk of morbidity. Obese people are at an increased risk of developing several comorbid conditions, including diabetes, hypertension, dyslipidemia, cardiovascular illnesses, and several types of cancer. According to a large body of research and physical

inactivity is both significantly associated with the weight increase. (Binaich, 2021)

The population of Nepal has also been through fast lifestyle changes, including a nutritional transition from traditional diets high in whole grains, vegetables, and fruits, and low in fat to foods high in refined grains, sugar, and fat. As a result, rates of overweight and obesity increased steadily across all age groups. Since 2006, there has been a steady rise in the frequency of both BMIs of 25 and 30, and the most recent NDHS data from 2016 shows that in Nepal, approximately 1 in 5 women (19.7%) were impacted by overweight or obesity, while 1 in 25 women (4.1%) were affected by obesity. (New Era, 2016)

These results underline the need of researching the consequences of dietary and lifestyle modifications that may ultimately account for adult weight growth.

To help this underlying problem, there exist no reliable applications that have the all-in-one weight track and loss visionary that focuses not only on the food they consume but also keep track and suggests them accordingly.

"Diet-Diary" -a food journal and a nutrition coach on your pocket targets on tracking the amount of food intake per day along with a calorie counting feature. One can keep account of his/her body mass index and have foods as per need by their BMI. Quick low calorie meal recipes are also recommended to individuals looking to shred weight.

Dietary habits and lifestyle behaviors are formed and may have long-lasting effects on the development of obesity and related chronic diseases. Therefore, to tackle these problems and get into a healthy lifestyle, one must keep track of their eating habits

as well as nutrition consumption. To be aware people of their health and to keep intact their progress one must be familiar with progress tracking applications. Some of the applications built in the developed countries have similar functionalities but they majorly focus on the calories of western whole grains and snacks. Typical Nepalese cuisine's calories are rarely found. Due to this, many individuals leave their weight-loss and mindful eating journey halfway.

As we all know, health is greater than wealth, and also often said that health is the greatest of all blessings. Health must not be neglected at any cost; no cost is costlier than health.

Thus, to address the problem of inconsistent health and fitness journey of an individual thriving to maintain and take care of their health, "Diet Diary", a digital food tracker, is proposed, that aims to contribute efficiently in mindful dietary habits of an individual along with health and fitness journey.

"DIET-DIARY", will be an android application that would be available on the google play store and could be downloaded from there. Once the application is installed on an android phone, the user is provided with two options: either to sign up as a new member or log in to an existing account. Existing users can directly login with the help of google or facebook. After signing into the user's account, user preferences and personal details are jotted down by conducting digital questionnaire. When user preferences are known, users are directed to the BMI calculation page where they can enter their details such as height and weight, and gender to calculate their body mass index (BMI). According to their BMI, they can know the amount they have to take per day to lose weight if they are obese. Users can keep a journal of the foods they take using the app and calculate their calories accordingly. They can also keep track of their daily activities and calories burnt with those activities.

If the user wishes to unlock the premium features, he/she would have to pay the marked amount through the in-app payment

system and enjoy the premium features. The premium features include recipes and plans where, user can select the high or low caloric recipes (according to their required calorie amount), different nutritionist approved weight gain and weight loss plans. Users can have glance of their progress, and make conscious food choices with the help of personalized dashboard where user's progress is displayed.

More than just calorie counting, tracking involves being conscious of your food intake and accepting responsibility for it. One can build a habit of mindfulness and keep a record of what you put into your body and also discover mini changes that have a big impact.

Therefore, to address the problem of random dietary habits, inconsistent fitness journey, random calorie estimation, lack of proper food logs and low-efficient activity tracker, "Diet-Diary", is proposed as all in one solution of the abovementioned problems that makes health and fitness journey more accountable, individual more responsible and fitness transformation possible by addressing the real-world health problems as mentioned above.

Background-gives overview of the project addressing the disadvantages of existing system, research and analysis on the similar applications and comparison of the proposed system with the similar systems reviewed. It also deals with the literatures reviewed such as: Journals, books, articles and research papers.

Chapter 3:

Chapter 4:

Chapter 5:

2. Background

2.1   Project Elaboration

Diet Diary aims to be a digital food journal targeting health and fitness of the users with simple features, aesthetically pleasing UI, ease to use functionalities, appropriate features for all age groups and genders. Based on the reviews that have been done for it in accordance with the pertinent systems and apps that are in use online, the following outputs or features are anticipated from this project. Eye pleasing and user-friendly User Interface, fully functional body mass index calculator, suggestion of ideal body weights approved by WHO by taking height and gender into considerations, calorie counter along with food journal, records of user's data saved by admin, enable users can login and update personal data.

Disadvantages of existing system:

✜ Complex UI have made the systems look more complex and users find it difficult to use.

✜ Multiple features integrated at once makes the app look confusing to use.

✜ Users are easily overwhelmed by extra-ordinary features, hard to imply on dayto-day lives.

✜ Insufficient data for the calories of the foods makes user distracted from the app.

2.2   Review of Similar Systems/Solutions

2.2.1 My Fitness Pal:

Website: https://www.myfitnesspal.com/

About My Fitness Pal:

A smartphone app and website called MyFitnessPal keeps track of nutrition and exercise. To motivate users to stick to their diet and fitness goals, the app incorporates gamification aspects. Users can manually search for nutrients in the app's vast pre-existing database or scan the barcodes of various food items to keep track of their intake. (myfitnesspal, 2022)

Attached below are some of the screenshots of the MyFitnessPal system:
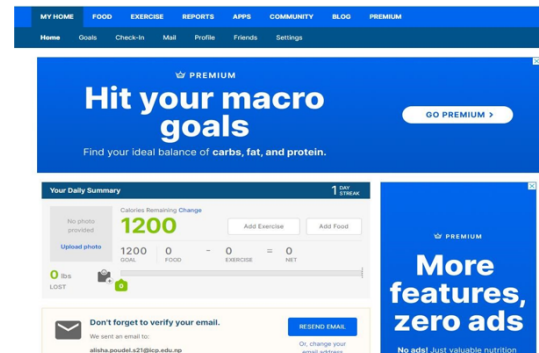

Figure 1: MyFitnessPal UI 1

2.4 Comparison with Similar Applications

During the study for my final thesis, I came across a few android applications that somewhat mirrored the concept I had in mind. Some of the features I had in mind were present in some of those apps. In addition, I'll use some of those apps as references during the development process to streamline things.

The following table shows the similarities and differences between above mentioned applications and developed application:

Table 1: Comparison of existing apps with proposed apps

S.N	Features	MyFitnessPal	Life Sum	MyNetDiary	My project-Diet Diary
1	Sign up for new account	Yes	Yes	Yes	Yes
2	Login	Yes	Yes	Yes	Yes
3	Other additional app for other purposes (step tracking,calorie burnt calculator)	Yes	Yes	No	No

4	Ideal Weight Display	No	No	Yes	Yes
5	Calorie Counter	Yes	Yes	Yes	Yes
6	Food Tracker	Yes	Yes	Yes	Yes
7	Macro Nutrition Counter	Yes	Yes	No	No
8	Premium Features	Yes	Yes	No	Yes