

Faculty of Computing and Informatics (FCI)

Multimedia University

Cyberjaya

**PSP0201 – Mini IT Project**

**Title: Gym Fitness Planner**

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**Acknowledgement**

We are really grateful because we managed to complete our Mini It Project within the time given by our lecturer, Miss Norwahida Syazwani Binti Othman. This project cannot be completed without the effort and co-operation from our group members, Tiew Han Bin and Lim You Qian. We also sincerely thank our family members who encourage and gave us advices and financial support throughout the process while completing this project. Last but not least, we would like to express our gratitude to our friends and respondents for their moral support and willingness to spend times with us to fill in the survey in order for us to complete the questionnaire part.

**Abstract**

This program is about selling and renew membership for fitness center and suggests users the nutrients supplement and workout plan according to BMI. The program requires users to log in using their User ID and password before they proceed to the next step. Users can have unlimited chance to log in their account. If they don’t have an account for this program, they have to register themselves an account at the login page. They will have to enter their information such as name, gender, address, age, height and weight. The system will generate the BMI based on the information acquired. After logging in to the program, program will show the workout plan suggestion with the suitable nutrients supplement. Below the suggestion, membership section will be provided to let user to either join or renew the membership. If the user already has the membership and he or she decided to renew again, the membership duration will be extended by the system. We will provide few type of membership such as 1 month, 3 months, 6 months and 1-year membership. Besides, promotions on membership will be given for the customer that join a 6 months or 1-year membership. The program also sells nutrient supplement to the customer. It will show the price and stock available for each products. When the product is out of stock, customer will not be able to buy the product anymore. Users are able to track their purchase records and view their membership details from the program.

The program provides special view for staff. They can log in into the program using their special User ID and password. They can view all the remaining nutrients supplement stocks, customer information and purchase records. All the customer records and stocks remaining can be exported into a file to read by the computer.

**Chapter 1: Introduction**

**1.1 Background of the program**

This body fitness program is totally a new program that will be created by our group. The reason we choose to create the program is body fitness is trending all around the world. We think this program is better because there are not many body fitness program out there. Through this program, we guide user and show them the correct way to the road of fitness. We’ve included the gym membership in the program. User can either join the gym as the new membership or renew the membership through the program. Going gym doesn’t enough keep the body fit, the program will suggest the best nutrients supplement that suit the users according to their BMI acquired like protein, vitamins, minerals and etc. Then, user purchase the nutrients supplement via the program. Lastly, the user can check the purchase history in the program so they can track how many stock they have refilled for certain duration. This program is not a prototype of an existing program out there. We strive for originality and we believe that this program has its real market value and marketable even though this program has limited to specific industry which is sports industry but this industry will never disappear in the future. Our targeted user of our program is the one who runs the fitness center. Apart from that, we will provide user a user-friendly interface, which allow them to familiarize with the program in a short period of times and do not makes them feels the program itself is complicated.

# **1.2 Problem Statement**

Nowadays, people care about their body because they want it to looks fitter and live healthier. However, they don’t know how to get started. Therefore, this system is created to help people to analyze and choose the best one from many choices that to ensure it’s custom made for a person.

# **1.3 Objectives of the Study**

1. This program allow users to checked their Body Mass Index (BMI) accurately. If the users know what their BMI is, they can follow the correct and suitable workout plan so that they can workout efficiently.

2. To guide user and show them the correct way to the road of fitness. The program has stated clearly about the workout plan suggestion for different BMI range so that users can follow according to the plan to achieve their fitness goal.

3. This program can let customer to choose and buy the memberships or nutrient supplement they want. Customer do not have to queue up for a long time to sign up for membership and buy the nutrient supplement they want. This can shorten the amount of waiting time during the purchase process.

# **Chapter 2: Literature Review**

**2.1 Introduction**

In this literature review, we are going to look back to how the body fitness get started. We’ve included some critical tips for entrepreneurs to start maintain their business in fitness area. We going to look into how nutrient supplements can affect our exercise performances. This paper also focused more on barriers from keeping people to do the body fitness and how digital workout going to help us to improve the existing workout method. Hopefully this literature review can provide useful information to people who interested in body fitness industry.

**2.2 The History of Fitness**

From the history of fitness. Body fitness has been categorizing into few different purposes. Each purpose takes place at different place and time.

According to (Lance C. Dalleck, January 2002), during the era of primitive man (pre-10,000 BC), The Dark Ages and Middle Ages, they trained their body to make sure their stamina are always well prepared for food hunting. Their lifestyle consisted of hunting and gathering food. It was quite common for tribes for embark on-or two-day journeys to seek food and water.

The fitness of the body was used for political and military purposes determine the influences of one's. Perhaps the best example of a civilization using fitness for political and military purposes was Persian Empire, which implemented mandatory rigid training programs to expand its domain around 4000-250 BC. During World War II, Cureton introduced fitness testing for cardiorespiratory endurance, muscular strength and flexibility for improving fitness level. This is because of the forces need better body foundation to win over the war.

Different sports were introduced to public at different era for health purpose. For example, During Ancient Chinese and Indian Civilizations (2500-250 BC) the Chinese developed Cong Fu gymnastics to keep the body in good working condition. Hindu priests did develop and exercise program that conformed to their religious beliefs; that program came to be known as yoga. Gymnastics gained popularity during National Period in Europe (1700-1850 AD) because the exercise facilities called Turnvereins were built throughout Germany to house apparatuses designed for running, jumping, balancing, climbing and vault-ing.

**2.3 The Business of Fitness**

According to (Andreasson, 2014), fitness has turned into a folk movement, but not one comparable to the old 20th-century movements, often connected to national sentiments, but instead a highly individualized preoccupation. In this article the historical development of modern gym and fitness culture is described and an analytically developed approach to the understanding of the emergence of this multi-billion-dollar phenomenon is developed. The analysis suggests that the techniques, tools, and physical exercises used today in gyms all over the world are the results of a physical culture developed and refined during the 20th century. The body ideals, exercises, techniques, and the pedagogy of fitness have become an increasingly international enterprise. A tentative analysis of the globalization of gym and fitness culture is developed and presented. Three important and decisive phases in the globalization of gym and fitness culture are identified and analysed.

According to (Tompkins, 2008), President John F. Kennedy (1960) said, “Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity.” Lack of physical fitness among business travellers can cause fatigue and impact performance and decision making. Fatigue risks related to travel can be divided into two categories: nutrition and inactivity.

According to (Parrot, Fall 1996), fitness may include all of the amateur and professional sports organization that help motivate people to improve their fitness and provide opportunities to compete. When view in its entirely, fitness is a mammoth industry. Entrepreneurs have seen the opportunity to make cash from the business of fitness.

By the end of 20th century, Fitness industry has generated approximately $100 billion. In order to succeed in this particular industry, you’ll need to give in more efforts and manage your business in an extraordinary, be different. According to Parrot, there are few critical tips to help you to succeed in business of fitness easily. Including understand the strategy to organize your business, know your customer well, able to provide differentiated product, hire the best talent and be a smart marketer. These tips might look easy to achieve; however, it would be hard in the end.

**2.4 Effect of Nutrient Supplement on Workout Performances**

According to (Physiol, 2007), about a research team have launched a study to determine the influence of nutritional supplement on resistant exercise. They have nine healthy subjects either Muscle Fuel as known as nutritional supplement or placebo for 7 days. They were under investigated under various method to improve responses and adaptations to resistance exercise. Each subject maintained his typical exercise and dietary habits. During the initial 7-day supplementation period, each subject recorded his physical activity for the entire 7 days. After the supplementation period, subjects reported to the laboratory for two consecutive days of exercise testing. After that, the participants were asked to refrain from exercise and from any alcohol for 24 hours prior to each protocol day and were tested in the fasted state.

In summary, the outcome are Muscle Fuel supplementation or nutritional supplement proved to be able to boost both exercise performance and recovery following an acute resistance exercise bout.

**2.5 Barriers of Body Fitness**

**2.5.1 Physical Activity in Daily Life**

The amount of sport done by humans are not high enough. Based on the literature review, we had found out some reason why people do not like to do sports. According to (Hamilton, 2008), the program we create is to solve the problem and encourage people to do more sports. Moderate to vigorous-intensity physical activity has an established preventive role in cardiovascular disease, type 2 diabetes, obesity, and some cancers. However, recent epidemiologic evidence suggests that sitting time has deleterious cardiovascular and metabolic effects that are independent of whether adults meet physical activity guidelines. Evidence from “inactivity physiology” laboratory studies has identified unique mechanisms that are distinct from the biologic bases of exercising. Opportunities for sedentary behaviors are ubiquitous and are likely to increase with further innovations in technologies. We present a compelling selection of emerging evidence on the deleterious effects of sedentary behavior, as it is underpinned by the unique physiology of inactivity. It is time to consider excessive sitting a serious health hazard, with the potential for ultimately giving consideration to the inclusion of too much sitting (or too few breaks from sitting) in physical activity and health guidelines.

Physical activity practiced on a regular basis is associated with a great amount of physical, psychological and physiological benefits and plays an exceptional role in preventing a variety of illnesses. Leading a sedentary lifestyle, on the contrary, is closely connected with the pathologies mentioned above and can become a serious health problem both in childhood and in adolescence and particularly among University students.

**2.5.2 Statistics of Sports**

A large amount of the population is aware of the benefits of regular physical activity in conjunction with a healthy lifestyle, but also that physical inactivity and low fitness levels are one of the main problems of worldwide health. However, there is still a high prevalence of sedentary habits both in childhood and adolescence

The majority of the countries stated not having practice any sport ever, for example 4.7% of Spanish youngsters with ages between 15 and 24 years old and 62% aged between 15 and 74 years old confirmed not having practiced any sport. Some Mediterranean countries, as is the case of Spain and Italy, are among the ones with the lowest level of regular exercise not only on an intensive level but also on a recreational one. In addition to this, different studies have demonstrated that, in general, the engagement in physical activities in the spare time decreases as we get older and that women devote less time to the practice of moderate and vigorous physical activities.

**2.5.3 Research on Reasons of Inactive Lifestyle**

A research team ran a study on the reasons why university students have adopted an inactive lifestyle. A group of 323 students (105 males and 218 female) were taken from a representative sample of 1834 students that consist of 991 male and 843 female students. This study focuses on those university students who are inactive while the students with active habits and those who have abandoned the practice have been removed.

The gathering of data was carried out by means of the CHDEV standardized questionnaire (Questionnaire for the Analysis of Sports Habits and Lifestyles), consisting of 51 questions included in different thematic blocks.

To analyze the barriers that prevent university students from doing any physical and sport activity during their free time we used question 22 consisting of a scale that has 12 items. In the instructions, the students were asked to point out to what extent the reasons for being inactive; not having done any physical and sport activity during their free time, up to the moment of the study, have had an influence on them. The answers were gathered in a likert scale of 4 points ranging from “not at all (1)” to “a lot (4)”.

It was done during the usual class time, with previous consent given from the corresponding teacher. It was done away from the period of exams since it could have had an influence on the emotional state of the participants and on the results.

The information was collected in a self-administered approach designed for a massive classroom impact and in the presence of an administrator at all times. Students were asked for their collaboration in an anonymous and volunteering way. Special emphasis was placed on the openness of their answers. The participants did not receive either financial or academic compensation for their collaboration in the study.

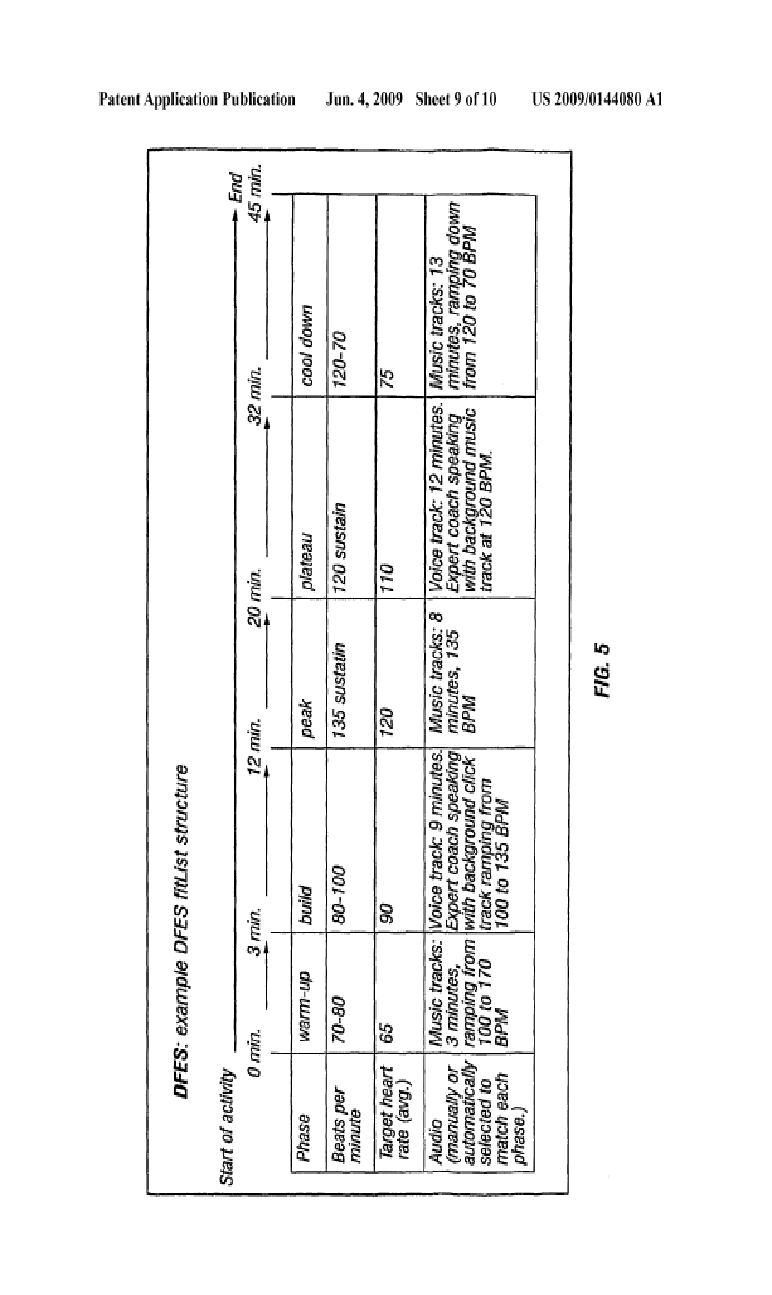
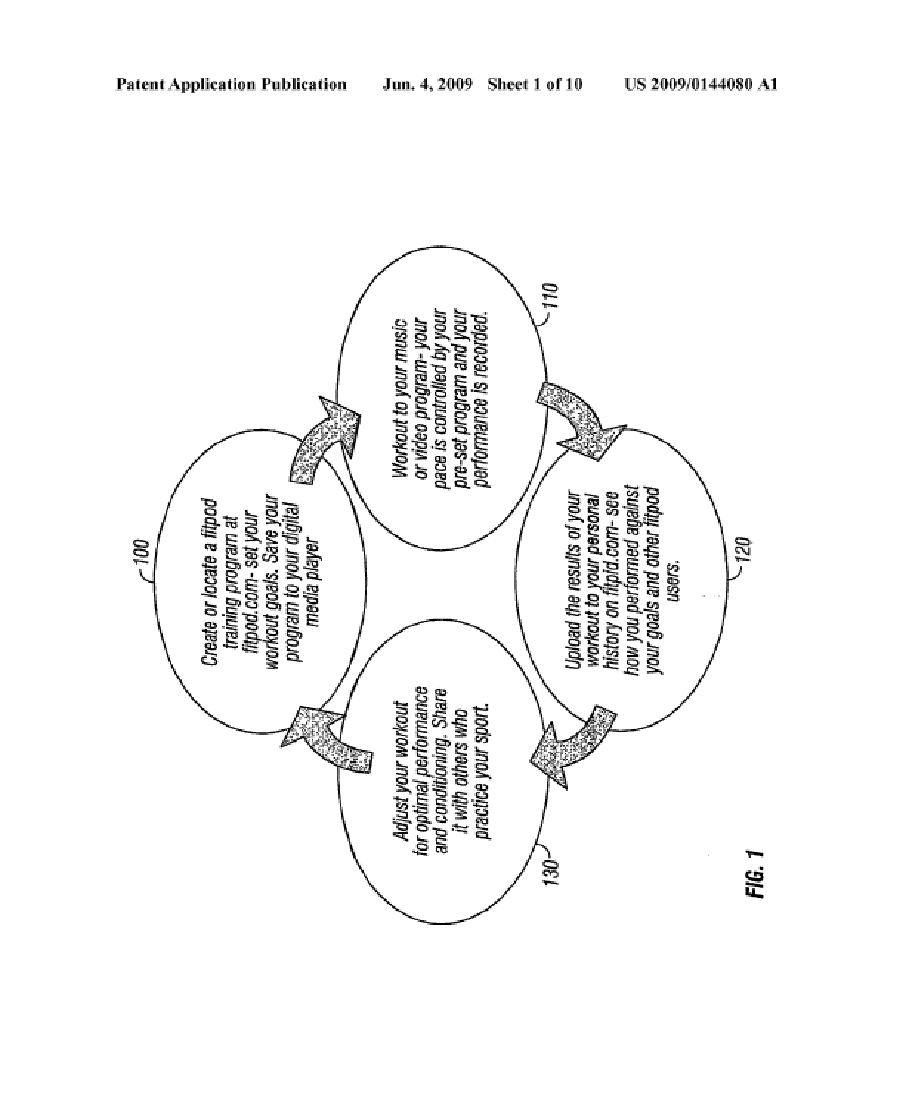
Result shows that reasons referred to as external barriers are lack of time, on the other hand, internal barriers such as not liking the physical activity, not seeing its practicality or usefulness, feeling lazy or with apathy, or thinking that they are not competent in this type of activities. Other reasons such as the lack of social support are grouped within the external barriers. Finally, it is important to stress that there are also differences based on gender with respect to motivation. (Gómez-López, 2010)

**2.6 Digital Workout**

**2.6.1 Background of Digital Workout**

For millions of people, fitness is a lifestyle. Whether they ride a bike, go to a spinning class, walk 10,000 steps a day, run marathons, use a rowing machine, dance, practice yoga, or meditate, they spend thousands of hours staying fit, and hundreds of millions of dollars on club memberships, equipment, media, personal trainers, books, and specialized diets. For millions of people, music is also a lifestyle; and one that is completely compatible with their interests in fitness. Look in any health club or along any running/biking trial and you will see that people love to listen to music, very often using a digital media player, while they work out. It is no surprise that many music lovers use their digital media players and Macs or PCs to create soundtracks for their workout routines, and that they share favourite play lists with friends and team members. However, there is as yet no way to integrate the progress and intensity of a workout with a music playlist, other than preparing a play list prior to a workout, or manually creating play list during a workout by selecting music as the workout proceeds. The presently preferred embodiment of the invention provides digital a digital fitness enhancement system having multiple components which acquires real-time training data, such as heart rate, speed, and distance, where the data can be recorded and also used as feedback to control playback; and a web service which provide tools for storage and analysis of personal fitness data, community services for system users. A structured digital media presentation meant to support/enhance physical health and well-being. A fitness program includes but is not limited to: scripts, pointers, and media. (Robert Gray, 2006)

Figure 2.1



**2.7 Connection between Literature Review and Our Project**

There are several reasons that shows why we choose these topics. In the history of fitness, we can see that people already know the important of body fitness because it helps people to survive everyday especially for the era of primitive man. Moreover, there is no invention of body fitness program during the old era. Besides, the business of fitness is growing rapidly especially in 20th century. Fitness also include different level of sports industry which are amateur and professional. Apart from that, our fitness program also provides nutrient supplement that can boost the workout performance. A study launched by a team had shown that taking nutrient supplement can boost our workout performance. On top of that, people nowadays do not really like to exercise much and due to this reason we decided to create this fitness program. This could change the lifestyle of an individual. In addition, digital workout is the present and future of workout. Nowadays people exercise in a digital like a fitness program that could improve and helps organize the routine of workout. Above are all the connections and the reasons why we do this literature reviews.

**2.8 Conclusion**

This review has the idea of body fitness in the industry and people’s lifestyle towards body fitness. It’s a potential industry in the future as the demand is increasing as the times pass by. Based on the review we have made, we decided to build a program which will help people to get started into road of body fitness and provide them the package that suit them based on their information provided.

**Chapter 3: Methodology**

**3.1 Data and Information Gathering**

**Observation**

Based on our own experiences, when we found that 3 out of 5 gym receptionist and casher are busy. For example, there is a long queue at the counter because there is only 1 staff is in charge of the counter. Besides, when the staff went to toilet or a short break, then the counter only left another one staff alone there to handle all the customer. So, it makes the queue become longer and the amount of works of the staff become heavier. By using our program, it can solve this problem because the customer can choose what they want before they pay or ask for it. This can save a lot of time because customer do not need to ask anything at the counter but straight purchase it because they already chosen what they want.

**Reviewing Documentation**

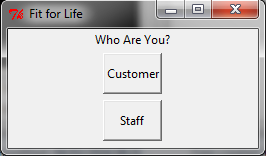
Based on our research, we found that almost all the gyms have more than 800 customers per month and still increasing. This may cause their staff cannot handle all the customer. The number of customer is increasing month by month; we are sure that they need to have some computerize organization to help them to handle all the customers. Besides, based on some forums that discuss about the gym’s problems, mostly customers are complaining about the process of getting the membership or buying some stuff at the counter is long and complicated. For example, they have to queue up for a long time to get what they want. So, our program can reduce the amount of time to the whole process.

**Questionnaire**

We have done a survey which gathering their personal information, experience of exercising and their opinion on nutrient supplement. Throughout this survey, we found that more than 10 persons that do not exercise regularly and most of the reason is because they are too busy and lazy. The figure is the result of the survey.

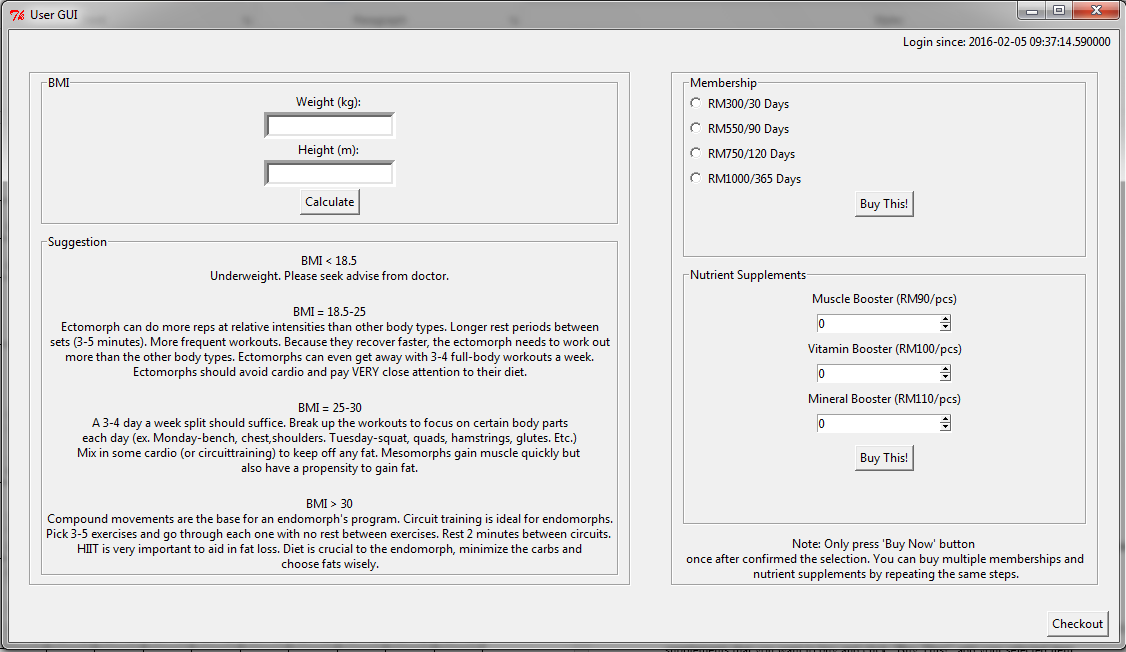
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Effect of nutrient supplement | No | | No | | No | | Yes | | No | | No | | No | | No | | Yes | | Yes | |
| Consume nutrient supplement | No | | No | | No | | Yes | | No | | No | | No | | No | | No | | No | |
| Reason of not exercising | Lazy | |  | |  | |  | | Busy | | Lazy | | Busy | |  | |  | |  | |
| Rate of exercise | I don't exercise | | Not regularly | | 1-2 times every week | | 1-2 times every week | | Not regularly | | 3-4 times every week | | I don't exercise | | 1-2 times every week | | Not regularly | | 1-2 times every week | |
| Occupation | Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | |
| Height | 160 cm - 179 cm | | 160 cm - 179 cm | | 160 cm - 179 cm | | 160 cm - 179 cm | | 180 cm and above | | 160 cm - 179 cm | | 140 cm -159 cm | | 160 cm - 179 cm | | 160 cm - 179 cm | | 180 cm and above | |
| Weight | 40 kg -  50 kg | | 50 kg -  60 kg | | 70 kg - 80 kg | | 80 kg and above | | 80 kg and above | | 50 kg -  60 kg | | 40 kg -  50 kg | | 50 kg -  60 kg | | 60 kg -  70 kg | | 50 kg -  60 kg | |
| Gender | Female | | Female | | Male | | Male | | Male | | Male | | Female | | Male | | Female | | Male | |
| Age | 10-19 | | 20-39 | | 20-39 | | 20-39 | | 20-39 | | 20-39 | | 20-39 | | 10-19 | | 10-19 | | 10-19 | |
| No. | 1. | | 2. | | 3. | | 4. | | 5. | | 6. | | 7. | | 8. | | 9. | | 10. | |
| No | | Yes | | Yes | | Yes | | Yes | | Yes | | No | | Yes | | No | | Yes | |
| No | | No | | No | | No | | Yes | | Yes | | No | | No | | No | | No | |
|  | |  | |  | |  | | Only exercise when got free time. | | Busy | | Lazy and Busy | | Lazy | |  | | Busy | |
| Not regularly | | More than 4 times every week | | Not regularly | | Not regularly | | Not regularly | | Not regularly | | I don't exercise | | 1-2 times every week | | Not regularly | | Not regularly | |
| Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | | Student | |
| 160 cm - 179 cm | | 160 cm - 179 cm | | 160 cm - 179 cm | | 140 cm -159 cm | | 180 cm and above | | 160 cm - 179 cm | | 140 cm -159 cm | | 160 cm - 179 cm | | 140 cm -159 cm | | 160 cm - 179 cm | |
| 60 kg -  70 kg | | 70 kg - 80 kg | | 50 kg -  60 kg | | 40 kg -  50 kg | | 70 kg - 80 kg | | 40 kg -  50 kg | | 40 kg -  50 kg | | 60 kg -  70 kg | | 40 kg -  50 kg | | 40 kg -  50 kg | |
| Female | | Male | | Male | | Female | | Male | | Male | | Female | | Male | | Female | | Female | |
| 20-39 | | 20-39 | | 20-39 | | 20-39 | | 20-39 | | 10-19 | | 20-39 | | 20-39 | | 20-39 | | 20-19 | |
| 11. | | 12. | | 13. | | 14. | | 15. | | 16. | | 17. | | 18. | | 19. | | 20. | |

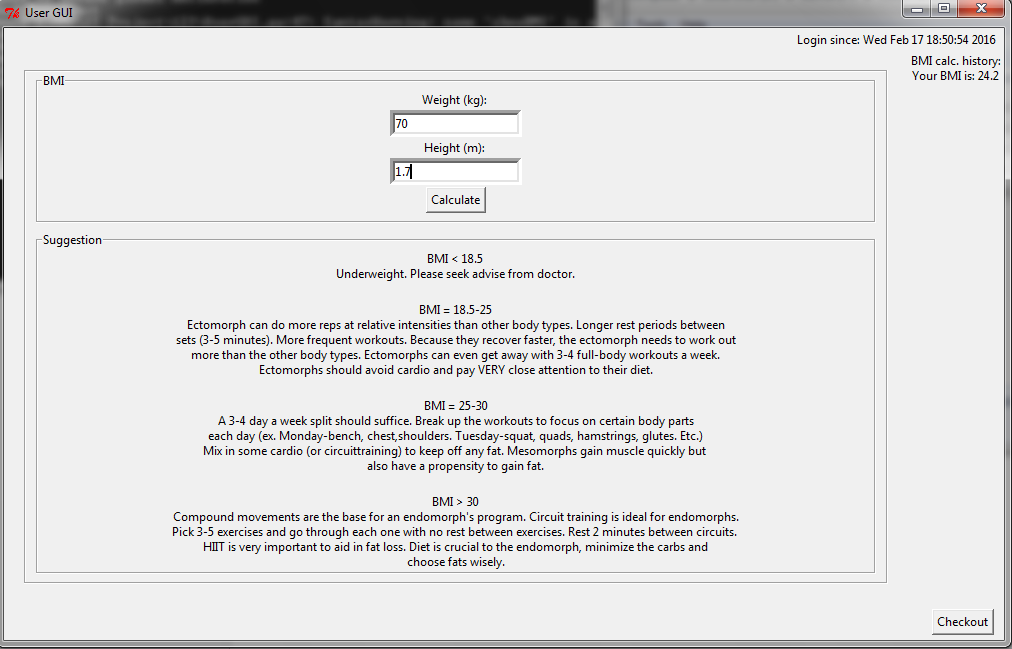
**3.2 User Manual**



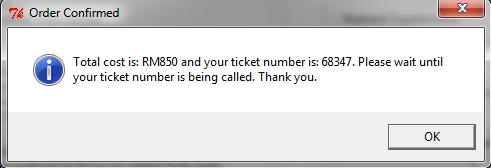
This is the first page of the program. User can choose which type of user they are.

**Customer:**

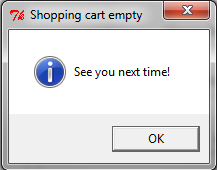


If user selected the “Customer” button, the program will bring user to the main page. Firstly, you choose to enter user’s weight and height to calculate your Body Mass Index(BMI) by clicking “Calculate” button. Next, user can read our suggestions according to user BMI. After that, user can order the gym’s membership or nutrient supplements at the right hand side of the page. After user selecting the items user want, user have to click “Buy This!” button in each boxes to confirm their orders. After user done purchasing, user can check the total amount that have to be paid and user’s ticket number.

If the staff or admin disabled the function of buying membership and nutrient supplement, customers are not allow to purchase anything but customers are still allow to check their BMI and the suggestion of the workout plan.

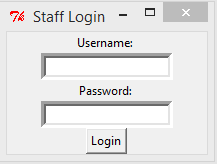


After clicking “Checkout” button, the system will pop up the detail of user’s order. The system will show the total amount of cost and user’s ticket number.

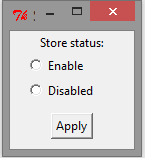


System will pop up this window if user did not order anything and click the “Checkout” button.

**Staff:**



This is staff login page. Staffs are required to insert their username and password provided to login to the staff interface.



Staffs are able change the store status whether the store is available or not. The store is set as disabled by default. Staff need to enable it in order for customer to purchase. If the store is set as disabled, then the customer cannot buy the membership and nutrient supplements and vice versa.

# 

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**Appendix**

**Appendix A: Source Code**

**Landing Page**

from Tkinter import \*

from tkMessageBox import \*

from Tkinter import Tk, Frame, BOTH

import os

import sys

class GUI(Frame):

def \_\_init\_\_(self, parent = None):

Frame.\_\_init\_\_(self)

self.pack()

self.master.title("Fit for Life")

self.master.minsize(width=250, height=100)

#instruction text for user

mainframe = Frame(self)

mainframe.pack(ipady=2)

Label(mainframe,text = "Who Are You?").pack()

Button(mainframe,text="Customer", command = UserUserSelection, width=7,height=2).pack(pady=3)

Button(mainframe,text="Staff", command = UserStaffLogin, width=7,height=2).pack(pady=3)

def UserUserSelection():

os.system ("UserGUI.py")

os.\_exit(0)

def UserStaffLogin():

os.system ("StaffLogin.py")

os.\_exit(0)

def main():

root = Tk()

entry = GUI(root)

entry.pack()

root.mainloop()

if \_\_name\_\_ == "\_\_main\_\_":

main()

**User GUI**

from Tkinter import \*

from Tkinter import Tk, Frame, BOTH

import sys

import os

import time

import random

from random import randint

import tkMessageBox

from tkMessageBox import \*

import Tkinter

class GUI(Frame):

def \_\_init\_\_(self, parent = None):

Frame.\_\_init\_\_ (self)

self.pack()

self.master.title("User GUI")

self.master.minsize(1000,500)

#mainframe

mainframe=Frame(self).pack(fill=BOTH, expand=TRUE, ipadx=5)

#predefined value

global Frame2

TotalCost=0

showBMI=0

ticketnumber=0

now = time.asctime( time.localtime(time.time()) )

Label (mainframe, text="Login since: " + str(now)).pack(anchor=NE, padx=5)

global TotalCost

Button(mainframe, text="Checkout", command = checkout).pack(anchor=SE ,padx=10 , pady=5, side=BOTTOM)

Frame1 = LabelFrame(mainframe)

Frame1.pack(side = LEFT, pady=20, padx=20, fill=BOTH, expand=TRUE)

#bmi

bmiframe = LabelFrame(Frame1, text="BMI")

bmiframe.pack(fill=BOTH, expand=TRUE, padx=10, ipady=3)

global TotalBMI

global weightentry

global heightentry

global showBMI

global ticketnumber

Label(bmiframe, text="Weight (kg): ").pack(side = TOP)

weightentry = Entry(bmiframe, bd=5)

weightentry.pack()

Label(bmiframe, text="Height (m): ").pack(side = TOP)

heightentry = Entry(bmiframe, bd=5)

heightentry.pack()

Button(bmiframe, text="Calculate", command=calcbmi).pack(pady=2)

suggestionframe = LabelFrame(Frame1, text="Suggestion")

suggestionframe.pack(fill=BOTH, expand=TRUE, padx=10,pady=8)

Label(suggestionframe, text="BMI < 18.5\nUnderweight. Please seek advise from doctor.\n").pack()

Label(suggestionframe, text="BMI = 18.5-25\nEctomorph can do more reps at relative intensities than other body types. Longer rest periods between\nsets (3-5 minutes). More frequent workouts. Because they recover faster, the ectomorph needs to work out\nmore than the other body types. Ectomorphs can even get away with 3-4 full-body workouts a week.\nEctomorphs should avoid cardio and pay VERY close attention to their diet.\n").pack()

Label(suggestionframe, text="BMI = 25-30\nA 3-4 day a week split should suffice. Break up the workouts to focus on certain body parts\neach day (ex. Monday-bench, chest,shoulders. Tuesday-squat, quads, hamstrings, glutes. Etc.)\nMix in some cardio (or circuittraining) to keep off any fat. Mesomorphs gain muscle quickly but \nalso have a propensity to gain fat.\n").pack()

Label(suggestionframe, text="BMI > 30\nCompound movements are the base for an endomorph's program. Circuit training is ideal for endomorphs.\nPick 3-5 exercises and go through each one with no rest between exercises. Rest 2 minutes between circuits. \nHIIT is very important to aid in fat loss. Diet is crucial to the endomorph, minimize the carbs and\nchoose fats wisely.").pack()

#right frame

Frame2 = LabelFrame(mainframe)

#membership

membershipframe = LabelFrame(Frame2, text="Membership")

membershipframe.pack(fill=BOTH, expand=TRUE, padx=10)

global var

var = IntVar()

R1 = Radiobutton(membershipframe, text="RM300/30 Days", variable=var, value=1).pack(anchor = W)

R2 = Radiobutton(membershipframe, text="RM550/90 Days", variable=var, value=2).pack(anchor = W)

R3 = Radiobutton(membershipframe, text="RM750/180 Days", variable=var, value=3).pack(anchor = W)

R4 = Radiobutton(membershipframe, text="RM1000/365 Days", variable=var, value=4).pack(anchor = W)

Button(membershipframe, text="Buy This!", command=calcmembership).pack()

Label(Frame2, text="Note: Only press 'Buy Now' button \nonce after confirmed the selection. You can buy multiple memberships and\n nutrient supplements by repeating the same steps.\n").pack(side=BOTTOM, fill=BOTH, ipadx=10)

#nutrient supplement product list

global musclebooster

global vitaminbooster

global proteinbooster

nutrientsupplementframe = LabelFrame(Frame2, text="Nutrient Supplements")

nutrientsupplementframe.pack(expand=TRUE, fill=BOTH, padx=10,pady=8)

Label(nutrientsupplementframe, text="Muscle Booster (RM90/pcs)").pack(pady=5)

musclebooster= Spinbox(nutrientsupplementframe, from\_=0, to=10)

musclebooster.pack()

Label(nutrientsupplementframe, text="Vitamin Booster (RM100/pcs)").pack(pady=5)

vitaminbooster = Spinbox(nutrientsupplementframe, from\_=0, to=10)

vitaminbooster.pack()

Label(nutrientsupplementframe, text="Mineral Booster (RM110/pcs)").pack(pady=5)

proteinbooster = Spinbox(nutrientsupplementframe, from\_=0, to=10)

proteinbooster.pack()

Button(nutrientsupplementframe, text="Buy This!", command=calcnutrient).pack(pady=12)

def calcbmi():

global weightentry

global heightentry

global showBMI

global TotalBMI

global Frame2

GetWeight=weightentry.get()

GetHeight=heightentry.get()

TotalBMI = float(float(GetWeight)/(float(GetHeight)\*float(GetHeight)))

showBMI = Label(text="BMI calc. history:\nYour BMI is: " + str(round(TotalBMI, 1))).pack()

f = open('state.txt','r')

verifyshopstatus = f.readline()

if verifyshopstatus == "Enabled":

Frame2.pack(side = RIGHT, pady=20, padx=20, expand=TRUE, fill=BOTH)

elif verifyshopstatus == "Disabled":

Frame2.pack\_forget()

def calcmembership():

global var

global TotalCost

radiovar = var.get()

if radiovar == 1:

TotalCost = TotalCost + 300

elif radiovar == 2:

TotalCost = TotalCost + 550

elif radiovar == 3:

TotalCost = TotalCost + 750

elif radiovar == 4:

TotalCost = TotalCost + 1000

def calcnutrient():

global musclebooster

global vitaminbooster

global proteinbooster

global TotalCost

muscle = int(musclebooster.get())

vitamin = int(vitaminbooster.get())

protein = int(proteinbooster.get())

TotalCost = TotalCost + (muscle \* 90)

TotalCost = TotalCost + (vitamin \* 100)

TotalCost = TotalCost + (protein \* 110)

print TotalCost

def checkout():

global TotalCost

global ticketnumber

if TotalCost > 0:

ticketnumber=(randint(0,99999))

tkMessageBox.showinfo("Order Confirmed", "Total cost is: RM" + str(TotalCost) + " and your ticket number is: " + str(ticketnumber) + ". Please wait until your ticket number is being called. Thank you.")

os.\_exit(0)

else:

tkMessageBox.showinfo("Shopping cart empty", "See you next time!")

os.\_exit(0)

def main():

root = Tk()

entry = GUI(root)

entry.pack()

root.mainloop()

if \_\_name\_\_ == "\_\_main\_\_":

main()

**Staff Login**

from Tkinter import \*

from tkMessageBox import \*

from Tkinter import Tk, Frame, BOTH

import tkMessageBox

import os

import sys

class GUI(Frame):

def \_\_init\_\_(self, parent = None):

Frame.\_\_init\_\_ (self)

self.pack()

self.master.title("Staff Login")

self.master.minsize(width=200,height=120)

#predefined value

global usernameentry

global passwordentry

global username

global password

global database

database=[ ['staff','1234'],['admin','4321'] ]

#login

self.instructionFrame = Frame(self)

self.instructionFrame.pack()

Label(self.instructionFrame, text="Username: ").pack()

usernameentry = Entry(self.instructionFrame, bd=5)

usernameentry.pack()

Label(self.instructionFrame, text="Password: ").pack()

passwordentry = Entry(self.instructionFrame, bd=5, show="\*")

passwordentry.pack()

Button(self.instructionFrame, text="Login", command = self.loginbutton).pack()

def loginbutton(self):

global usernameentry

global passwordentry

global username

global password

global database

username=usernameentry.get()

password=passwordentry.get()

if [username,password] in database:

os.system ("StaffGUI.py")

while [username,password]not in database:

tkMessageBox.showinfo("Access Denied", "Please try again!").pack()

def main():

root = Tk()

entry = GUI(root)

entry.pack()

root.mainloop()

if \_\_name\_\_ == "\_\_main\_\_":

main()

**Staff GUI**

from Tkinter import \*

from tkMessageBox import \*

from Tkinter import Tk, Frame, BOTH

import os

class GUI(Frame):

def \_\_init\_\_(self, parent = None):

Frame.\_\_init\_\_ (self)

self.pack()

self.master.title("Staff GUI")

self.master.minsize(width=100,height=70)

radioframe = LabelFrame(self, text="Radio").pack(anchor = CENTER, expand = TRUE, fill=BOTH)

global var

var = IntVar()

storestatus = Label(radioframe, text="Store status:").pack(padx=15)

R1 = Radiobutton(radioframe, text="Enable", variable=var, value=1).pack(padx=15, anchor = W)

R2 = Radiobutton(radioframe, text="Disable", variable=var, value=2).pack(padx=15, anchor = W)

Button(radioframe, text="Apply", command=saveshopstatus).pack(padx=15, pady=10)

def saveshopstatus():

global var

shopvar = var.get()

if shopvar == 1:

text = "Enabled"

with open("state.txt", "w") as f:

f.write(text)

os.\_exit(0)

elif shopvar == 2:

text = "Disabled"

with open("state.txt", "w") as f:

f.write(text)

os.\_exit(0)

def main():

root = Tk()

entry = GUI(root)

entry.pack()

root.mainloop()

if \_\_name\_\_ == "\_\_main\_\_":

main()

**Appendix B: Survey Form**

Questionnaire about body fitness

1. Age

* 0-9
* 10-19
* 20-39
* 40 and above

1. Gender

* Male
* Female
* Others

1. Weight

* 30 kg and below
* 30 kg - 40 kg
* 40 kg - 50 kg
* 50 kg - 60 kg
* 60 kg - 70 kg
* 70 kg - 80 kg
* 80 kg and above

1. Height

* 140 and below
* 140-159
* 160-179
* 180 and above

1. Occupation

* Student
* Working
* Retired
* Others: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How often you exercise?

* More than 4 times every week
* 3-4 times every week
* 1-2 every week
* Not regularly
* I don’t exercise

1. Reason you don’t exercise? (If applicable)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Do you eat nutrient supplement before/during/after workout?

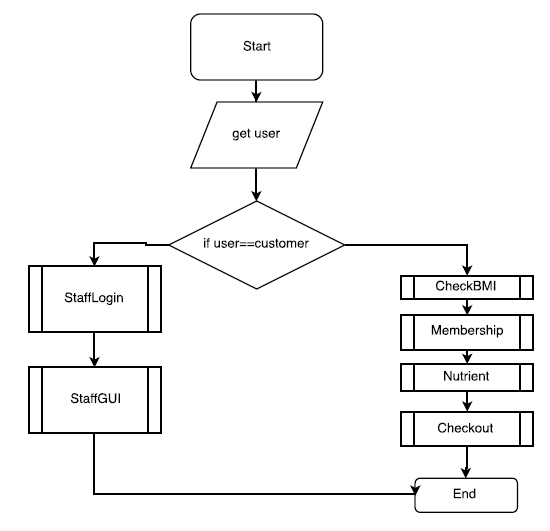
* Yes
* No

1. Do you think nutrient supplement is effective to you?

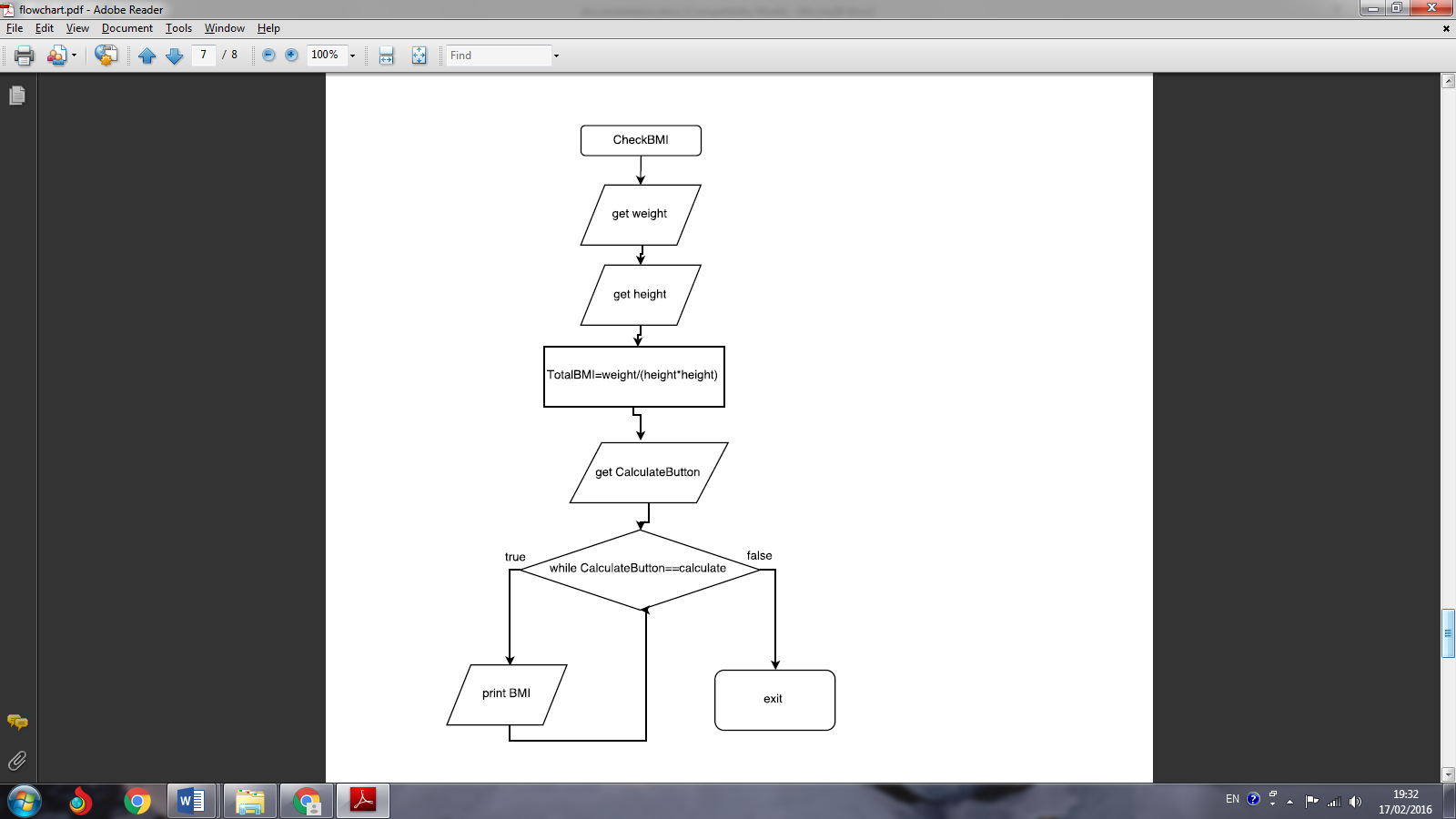
* Yes
* No

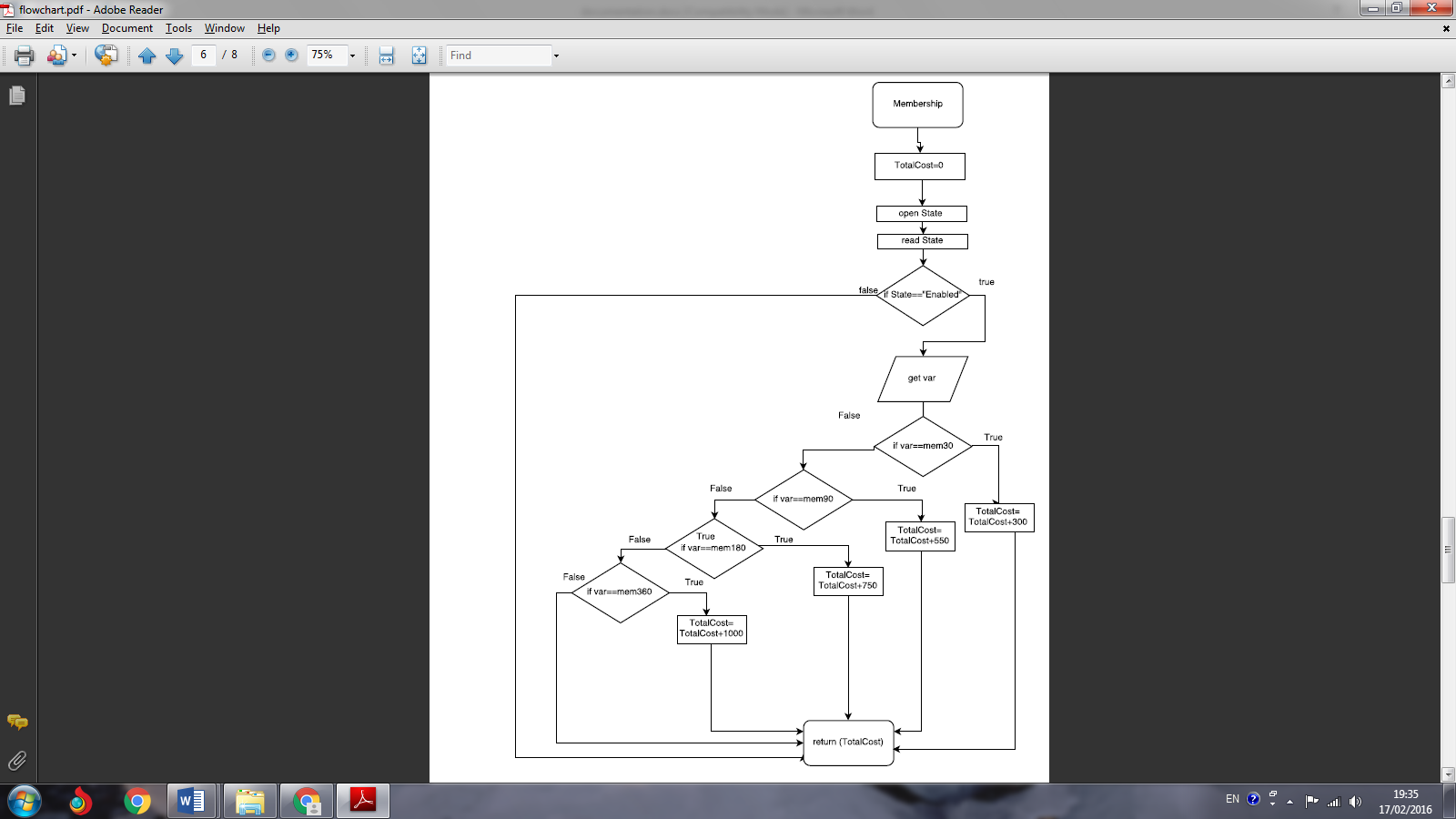
**Appendix C: Flowchart**

Main flowchart

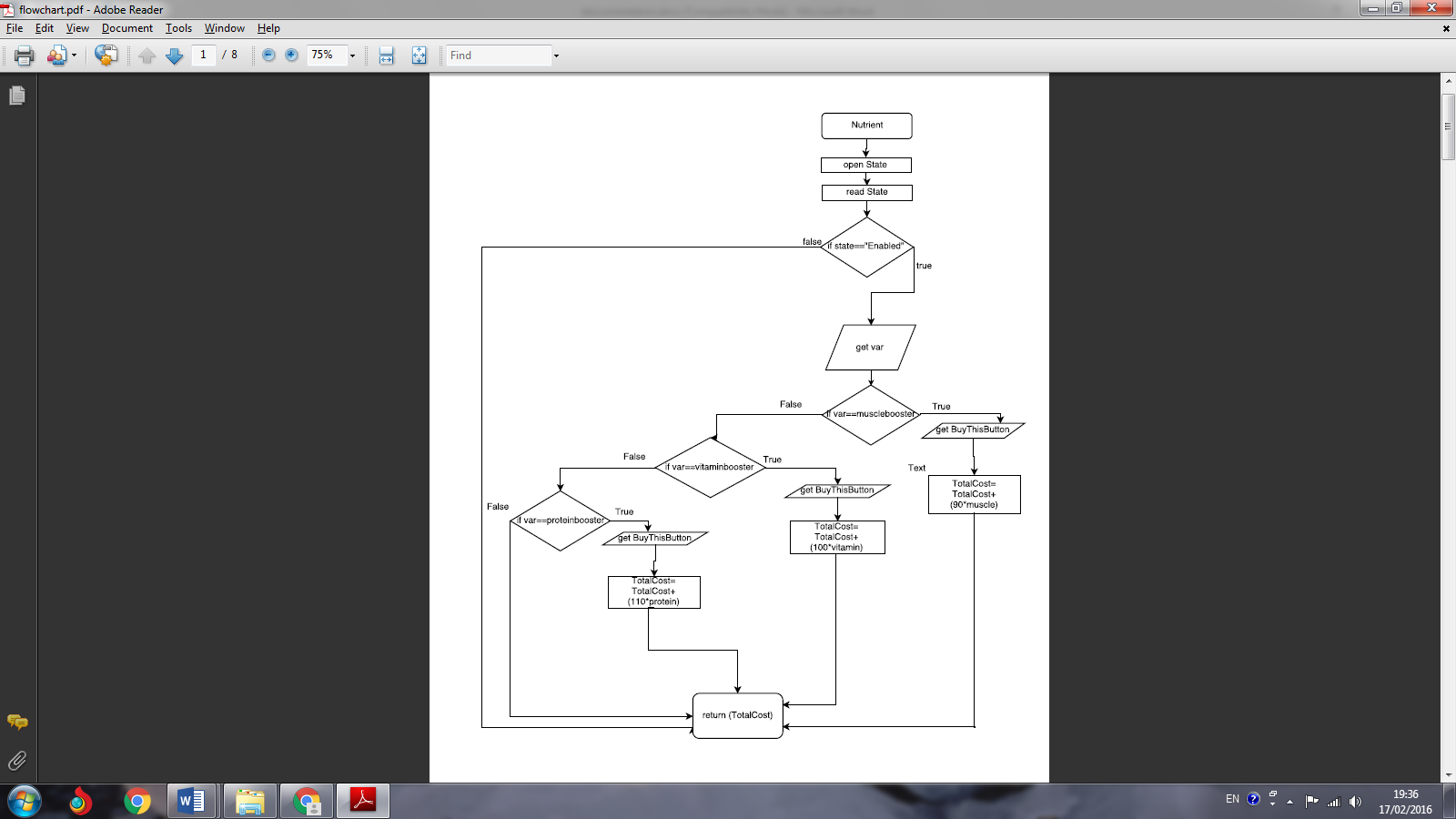


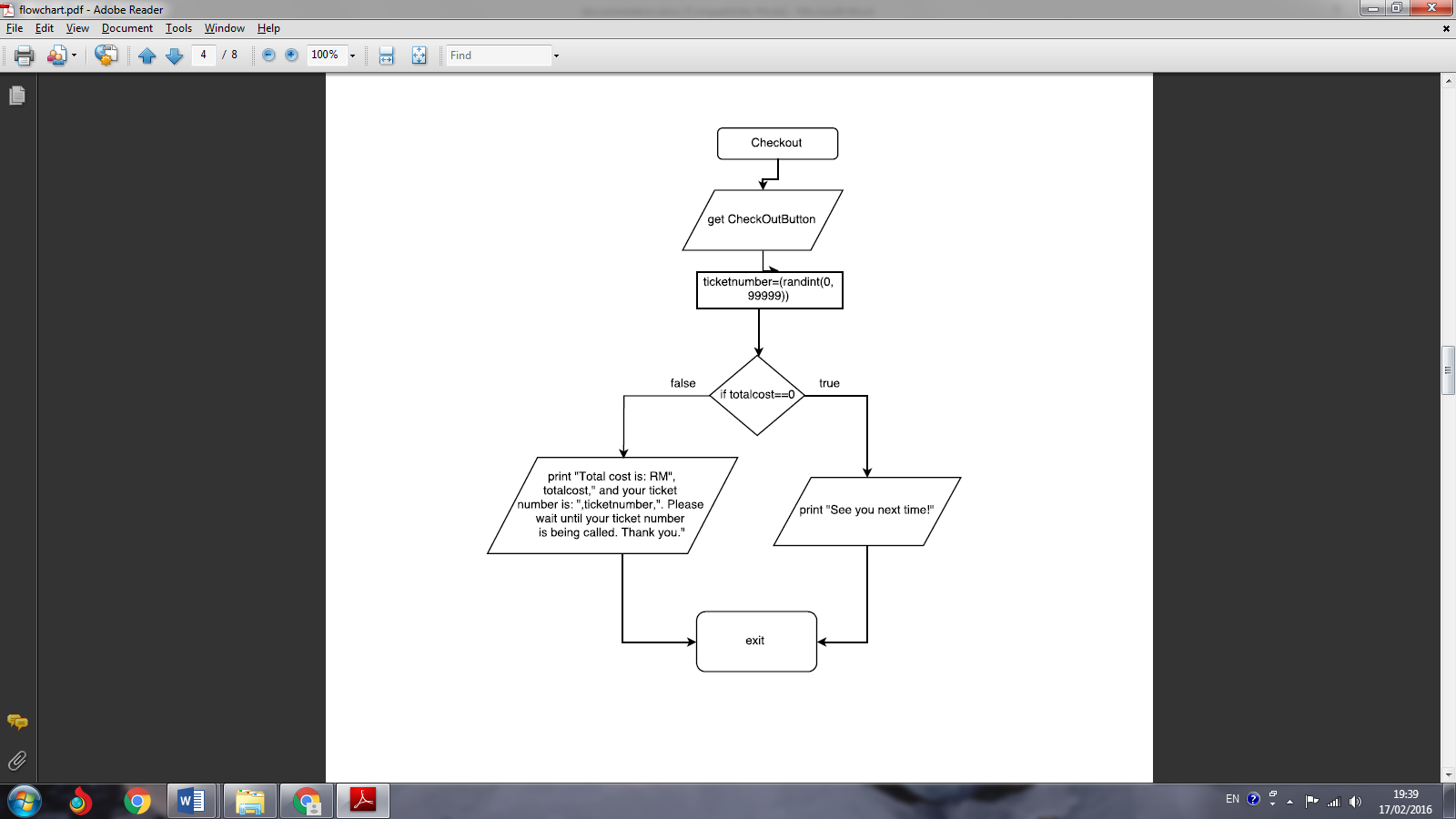
Check BMI module flowchart



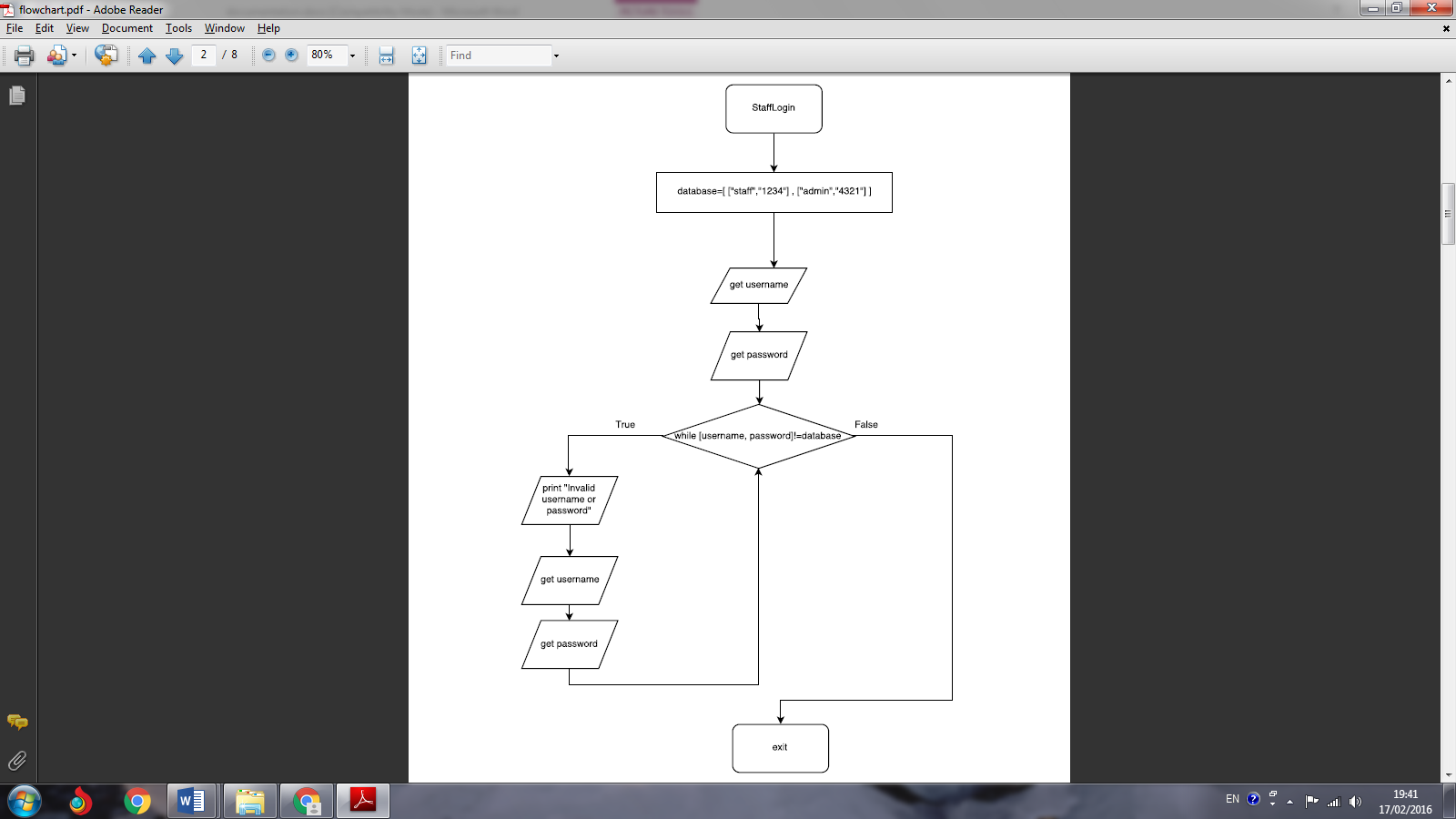
Membership flowchart

Nutrient flowchart

Checkout Flowchart



Staff Login Flowchart



**Chapter4: Conclusion**

**4.1 Conclusion**

We managed to complete our project on time. However, we made it a little bit different as our concept changed compared to what we planned from the beginning. To ensure the program is user friendly, we tried to make the interface simple and clean. We have tested the program many times and also invited our friends to test the program to ensure that the program is bug free. Throughout all the survey, advice and research on the internet, we believe that Gym Fitness Program are marketable and useable in current market.

We had experience a lot throughout the process of this project. Sincerely thanks to everyone who helped us during the progress. We appreciate that. Last but not least, we hope that Gym Fitness Program will become popular application widely used by gym business operator.

**4.2 Limitation**

There are several ideas that we unable to apply it into our program due to our limitation.

1. Allow customer to create their own account.

2. Allow customer to view their purchase history.

3. Allow staff or admin to view the purchase history with a search function.

**4.2 Future Studies**

We will continue the development of Gym Fitness Program to ensure that the program will keep improving as the generation go on. Besides, we are planning to add some new features to the program.

1. Online service

User are allowed use the program with their own platform or device. For example, customer can order the items they want through website and make their payment via online payment.

2. User’s authentication

Allow customer to create their own account on the program. Each user can view their information saved on the program.

3. History

Allow user to view the purchase history with search function. They track what and when they bought the item so they can restock the items if they want.