# **An overview of the requirements:**

**Actors:**

* Human actors: managers, customers, employee
* Non-human actors: database, checking information software, processing fitness tracking transaction systems, GPS, subscriptions time monitor.

**User stories:**

* As a manager, I want the app to give the best fitness training to the customer so that they can understand which is suitable for their body.
* As a customer, I want a system to provide a variety of payment methods so that I can choose an appropriate payment.
* As a manager, I want the system to be updated annually so that there will be various exercise works for the customers.
* As a customer, I want the app’s interface to be organized and categorize different types of training lesson so that I can keep track of which part I should do first.
* As a customer, I want the app to access my location so that the app can keep track of the time I have been exercising.
* As a customer, I want the app to provide suitable training methods and different training lectures for me to choose and to keep fit.
* As an employee, I want to witness how long the customers have used the app so that I can keep track of the subscriptions and remind them before the subscription ends.
* As an employee, I want the app to run smoothly in providing training lectures to the customers so that the coding will not run in error.
* As a customer, I want to see some specific body builders so that I can feel motivated to workout.
* As a manager, I want a app to report the total sales everyday so that I can summarize the profit per monthly subscriptions.

**Use cases:**

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| **Goal:** Upload different training lectures for the customers  **Primary:** Manager  **Secondary:** checking information software, database  **Pre-conditions:** Manager is logged in administrator’s account to manage the training database.  **Trigger:** All the recommended training lectures should be updated whenever the customers open the app.  **Flow of Event:**   1. The manager sorts out some old training lectures. 2. The manager deletes old lectures. 3. The manager will enter new training lectures on the database. 4. The database will save new information. 5. Checking information system will update the training lectures to the customers when they open the app.   **2A.** The manager removes in progress training lectures.   * The checking information system will show a warning message. * The manager will check his/her selection and correct it. * The process resumes at step 2   **5A.** The checking information system misses some features of updated training lectures.   * The manager needs to check all the latest information on the app. * The manager must find out missing information and manually refill it. * The process resumes at step 4 |

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| **Goal:** Opening account and apply for subscriptions  **Primary:** Training app customers  **Secondary:**  processing fitness tracking transaction systems, checking information system  **Pre-conditions:** Customers go straight to the transaction process after selecting their suitable subscriptions.  **Trigger: N**eed to create an account to do the subscriptions.  **Flow of Event:**   1. The app will ask the customer to open the account. 2. The app will display different subscriptions for the customers after they have created the account. 3. The app will show different payment methods to choose. 4. The customer chooses an appropriate option online. 5. The customer must enter the exact amount of money. 6. The app confirms the payment and seng the receipt via email.   **Extension:**  **4A. The customer does not have enough money for subscriptions.**   * The customer needs to update different payment methods in order to continue the subscriptions. * The process resumes at step 5 |

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| **Goal:** Reminding customers to subscribe again near the end date.  **Primary:** Employee  **Secondary:**  checking information software, subscriptions time monitor, database  **Pre-conditions:** employee confirms that the customer is reaching the end of the subscriptions date.  **Trigger:** Giving notifications via email and in the app to the customers.  **Flow of Event:**   1. The system will calculate how many days left the customers’ subscriptions will end. 2. The system will announce to the employee. 3. The employee will give notifications via email and in the app to the customers. 4. The customer can consider if they want to continue the subscriptions or not.   **Extension:**  **1A. The system fails to calculate the exact end date of the subscriptions.**   * Employee should check the day customer first subscribe to the training lectures. * Employee examines the days and input in the system. * The process resumes at step 2   **4A. The system cannot send a notification to the customer**   * Employee has to do service call to ask the customers if they want to continue or not. * The process resumes at step 5 |

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| **Goal:** Find customers’ location and track how long customers have they been exercising  **Primary:** The customers  **Secondary:** Checking information software, GPS source,  **Pre-conditions:** The customers’ device supports GPS.  **Trigger:** Recommend the time to rest or route to follow.  **Flow of Event:**   1. The map will ask for allow GPS service. 2. The customers allow to turn on Location Service. 3. The system will automatically locate where customers are. 4. The system shows the time and recommended route for the customers to exercise. 5. The customers decide to do the training.   **Extension:**  **2A. The customers decline to use the GPS service.**   * The customers must choose their current location manually. * The process resumes at step 3 |

**Use case diagram:**

Summarize profits

Transaction system

Manager

Access location

Modify training lectures

Update training lectures

Database

Employee

Track subscriptions time

Give reminders

GPS

See specific training builders

Filter different training lesson

subscriptions time monitor

Provide payment methods

Make a payment

Customer

**Usability requirements:**

* The confirmation of the transaction can be done with PIN, Voice Recognition, Face ID, etc.
* The system must provide fully descriptive instructions to use a app.
* The system must ensure that all the customers’ details are safe by giving two or three security questions.

**Performance requirements:**

* All the suitable training lectures must be shown within 5 seconds after the customers enter the app.
* The system must support all the latest suitable training lesson for the customers, with at least 20 lessons for the customers to choose.
* The home page must able to support around 7000 customers’ accesses per hour.

**Reliability requirements:**

* The system must perform without failure in 98 percent of uploading training lectures during a week.
* The subscriptions time monitor must be updated 99.999 percent of the actual time.
* The system must not process one wrong transaction during a month.

# **A plan for the development of the system:**

A Work Breakdown Structure:

0) Define objective

1) Recruitment: (manager and employee)

2) Prepare all related supply:

2.1) Asking advice from body builders and choose suitable lessons for the customers

2.2) Buy additional equipment and provide extra services such as special training services, navigation, etc.

2.3) Contact to bank to co-operate

3) Gather requirement:

3.1) Specify functional requirements, usability, performance, reliability requirements

3.2) Report requirements

4) Establish the overall interfaces:

4.1) General layout: main colors, decorations, theme, data storage

4.2) Design elements: filter function, sorting training lectures, search box, additional functions

4.3) Divide different type of body training lessons plan in different tabs with description

5) Create infrastructure:

5.1) Build the database for training plans and import details: features, description, status

5.2) Upload training lecture features’ image

5.3) Build the database for customers’ information

5.4) Create a message system and generate message security control in the app

5.5) Develop a subscription control for managers and employees

5.6) Create a tracking system: location and time

5.7) Append GPS to the main system

6) Transaction and Profits (Money in general)

6.1) Add some payment options and print the bills

6.2) Apply discounts on upgrading subscriptions

6.3) Sales summarizing program

7) Examination

8) Advertising and Publishing

Activity-on-Node (AON) Graph:

ES

Duration

LS

Task

LF

EF

Slack: 0

Slack: 0

45

2

45

5.3

47

47

Slack: 0

Slack: 0

35

10

35

4.1

45

45

Slack: 0

47

3

47

5.4

50

50

50

2

50

5.5

52

52

34

1

34

3.2

35

35

Slack: 9

Slack: 0

Slack: 9

Slack: 9

Slack: 0

14

15

14

2.1

29

29

35

3

44

4.3

47

38

1

13

1

1

14

14

40

1

49

5.2

50

41

38

2

47

5.1

49

40

Slack: 0

Slack: 3

29

5

29

3.1

34

34

Slack: 4

Slack: 4

Slack: 0

35

5

39

4.2

44

40

Slack: 8

0

1

0

0

1

1

45

1

49

5.7

50

46

40

5

44

5.6

49

45

14

7

22

2.2

29

21

Slack: 0

Slack: 0

Slack: 31

Slack: 2

Slack: 3

Slack: 31

14

1

45

2.3

46

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52

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8

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54

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2

46

6.1

48

17

48

1

51

6.3

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6.2

51

48

# **A plan for the use of version control throughout the project:**

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| --- | --- | --- | --- | --- |
| VERSION | DATE | DURATION (days) | AUTHOUR | DESCRIPTION |
| 0.1 | Day 35th | 2 | Manager | Fix the app design |
| 0.2 | Day 41th | 1 | Manager | Update missing images |
| 0.3 | Day 46th | 2 | Employee | Fix “the app cannot complete the transaction” |
| 0.4 | Day 54th | 1 | Manager | Add new events and discount code |

# **Version Control:**