9533321 Software Requirement   
Group Project: URS, SRS, and diagram

Project Name: Fit and Rich

Team member

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## Project prioritization

The criteria of selecting the feature to be implemented first. We consider the criteria based on the effort, impact and risk. We would select the feature which has high impact, effort and low risk. And we can summarize the prioritization as a table:

| **Feature** | **Impact** | **Effort** | **Risk** |
| --- | --- | --- | --- |
| Exercise Tracking | High | Medium | Low |
| Insurance Discount from exercise | High | Medium | High |
| Virtual Event and Competition | Medium | Low | Low |

So, this table provides the prioritization based on effort, impact and risk. The feature that should be done first is the **Exercise Tracking feature** because this feature has medium effort, high impact and low risk.

## User journey for Exercise Tracking on running

Step 1: Open Fit-And-Rich Application

Step 2: Open the exercise tracking section

Step 3 (URS-01): Select exercise category to running

Step 4 (URS-02): Hit start tracking

Step 5 (URS-03): Application provides the tracking information (ex. Distance, Duration, Speed(m/min), Received point)

Step 6 (URS-04): User hits end the tracking

Step 7 (URS-05): Application shows post-running summary

## User Requirement Specification for this user journey

### URS-01: Exercise Category Selection

Users can choose an exercise category from a selection of exercise categories.

### URS-02: Start/Resume Exercise Tracking

Users can start or resume tracking the exercise progress from the exercise category chosen by the user in URS-01.

### URS-03: Real-time Exercise Tracking

Users can see the progress of their exercise tracking in real time.

### URS-04: Stop/Pause Exercise Tracking

Users can stop or pause the exercise progress tracking.

### URS-05: Post-exercise summary

Users can see the summary of the exercise progress after URS-04.

## Software Requirement Specification for this user journey

### SRS-01: Exercise Category Selection

System can show all available exercise categories on the screen with the exercise icon.

### SRS-02: Start/Resume tracking

System can start tracking the exercise and resume exercise tracking with the huge button at the screen.

### SRS-03: Real-time Exercise Tracking

System should be able to know what exercise the users are doing and how long they are doing it for in real-time. The information includes:

* Heart rate in BPM unit (text)
* Distance in km unit (text)
* Burned calories in cal (text)
* Duration in minute (text)

### SRS-04: Stop/Pause Exercise Tracking

System can stop or pause the exercise progress tracking when the user press stop or pause button respectively.

### SRS-05: Post-exercise summary

System can summarize all information from the exercise and show it to the user. The information include:

* Total distance in km unit (text)
* Burned calories in cal unit (text)
* Duration in minute (text)
* Average heart rate in BPM unit (text)
* Date and Time (text)
* Running route (Map or Image with route line)

## Use Case Diagram

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## Use Case Description

| Use Case ID | UC-1 | | | | |
| --- | --- | --- | --- | --- | --- |
| Use Case Name | Record exercise journey | | | | |
| Created By | Kan Katpark | | Last Update By | Kant Katpark | |
| Date Created | 18 Sep 2023 | | Last Revision Date | 18 Sep 2023 | |
| Actors | User | | | | |
| Description | User wants to track and record his/her exercise journey for gathering points and rewards. | | | | |
| Trigger | User opens the exercise tracking section. | | | | |
| Preconditions | * Users have good health condition. * Users are ready to exercise. | | | | |
| Use Case Input Specification | | | | | |
| Input | type | Constraint | | | Example |
| Exercise category | String | The categories are set and supported by the system. | | | “running”, “walking” |
| Exercise data | Object | The object must contain heart rate, and others. | | | { hearth\_rate: ‘..’, speed: 0, distance: 0, … } |
| Post conditions | Users can claim his/her exercise rewards after finishing exercise. | | | | |
| Normal Flows | User | | System | | |
| 1 | Select exercise category | |  | | |
| 2 | Hit start exercise tracking button | |  | | |
| 3 |  | | Record the exercise data [E1: Application stops working] [E2: Lost GPS signal] [E3: No internet connection] [E4: Disconnect to smart device] | | |
| 4 | [A1: Heart beat is too high/low] | | Provide tracking information | | |
| 5 | View real time exercise information [A2: Pause exercise] | |  | | |
| 6 | Stop exercise | |  | | |
| 7 |  | | Summarize the exercise record and display the summary to the user. | | |
| 8 | View exercise summary. [E3: No internet connection] | |  | | |
| Alternative Flow | A1: Heart beat is too high/low   * Warn users to stop or rest by showing a message “Please pause your exercise momentarily. Your heart rate appears to be outside the optimal range for safe exercise.” * Users select whether to stop or pause the exercise. * User hits continue button * Go to normal flow   A2: Pause exercise   * Showing the message: “Your exercise session has been temporarily paused. You are welcome to resume when you feel prepared.” * User hits continue button * Go to normal flow | | | | |
| Exception Flow | E1: Application stops working   * Application stopped successfully and stopped recording.   E2: Lost GPS signal   * Notify the user that the application can not get the user GPS signal. * Application continues to record the exercise but not record the distance. * Go to the normal flow.   E3: No internet connection   * Notify the user that the application can not connect to the internet. * Application continues to record the exercise but not record the distance. * Some information will be not shown on the tracking screen * Go to the normal flow.   E4: Disconnect with smart device   * Notify the user that the application can not connect to the smart device. * Application stopped recording the exercise. | | | | |
| Assumption | * Users must be registered and authorized to the system. * Users must install the fit and rich mobile application. * Users must wear a smartwatch or tracking device. | | | | |

## Activity Diagram

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## Non-functional Requirement

Usability:

* 90% of a panel that is representative of the general public shall successfully start and stop tracking their exercise within 1 minute of handling the program.

Performance Operational:

* The application responds within 1 second in every step of features.

Maintainability & Support Security:

* Customer support should respond to the user within 15 minutes.
* Average cyclomatic complexity of the application should not be more than 14.

Reliability and Availability:

* Application and server downtime should be no longer than 6 hours

Cultural & Political Legal:

* The product shall be able to be translated into English and Thai.

Security:

* Data encryption following AES-256 encryption for sensitive data

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## UI Wireframe

These images serve as the UI wireframes depicting the Exercise Tracking feature within the context of the running journey.

| UI-01: Category selection screen  1  User can select the exercise category | UI-02: Real Time Exercise dashboard (paused)    The application waits for the user to activate the exercise button, then the application records the exercise data and displays the summary in real time. |
| --- | --- |
| UI-03: Real Time Exercise dashboard    The application starts the exercise record. And the users are able to stop or pause with the button. | UI-04: Post-exercise summary    The application displays the post exercise summary and the running route to the user. |