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)

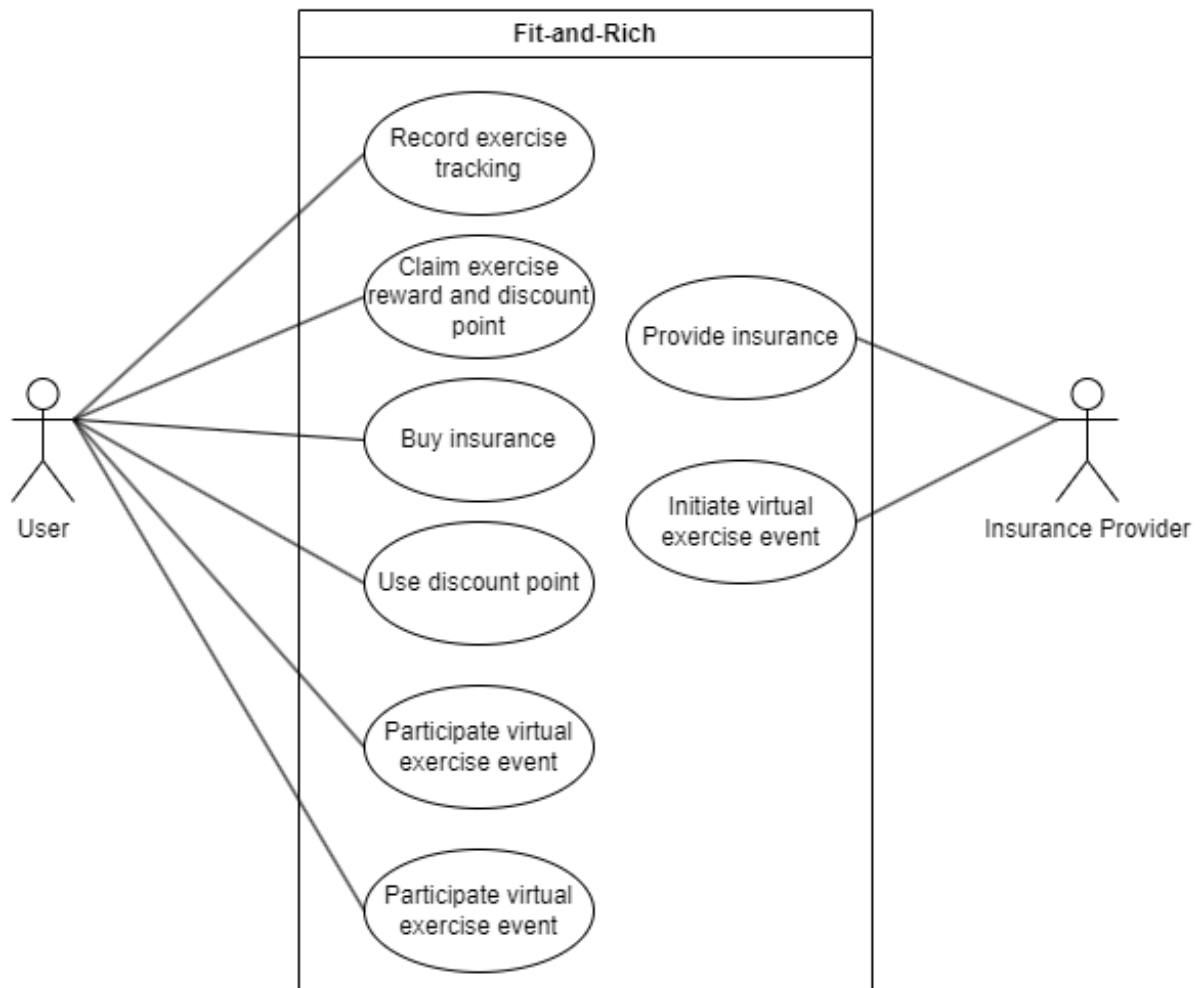## SRS-04: Stop/Pause Exercise Tracking

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)
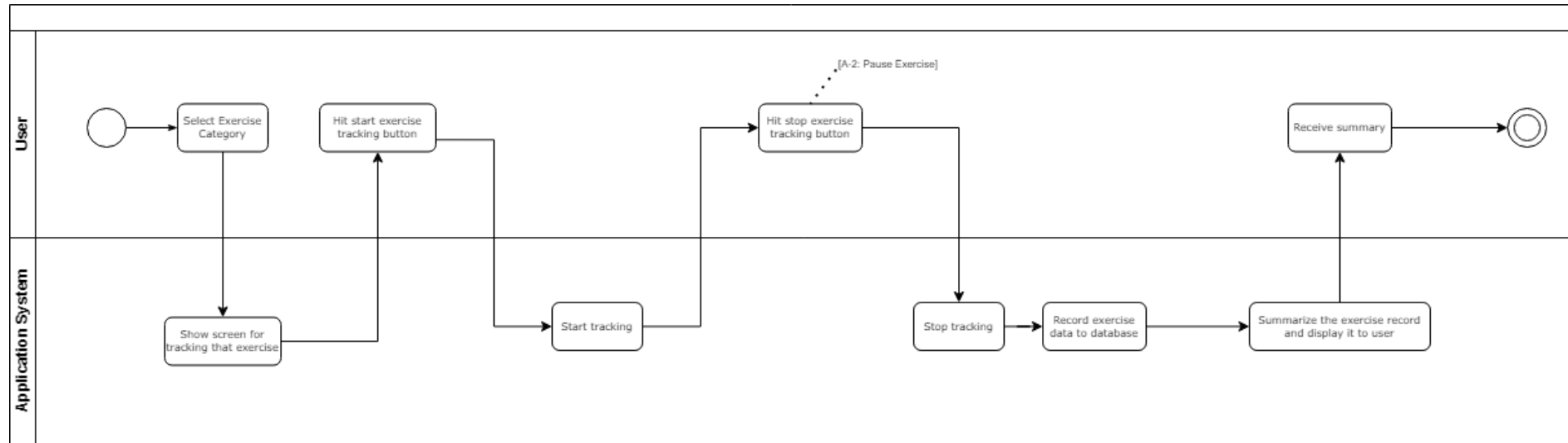
Use Case Diagram

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

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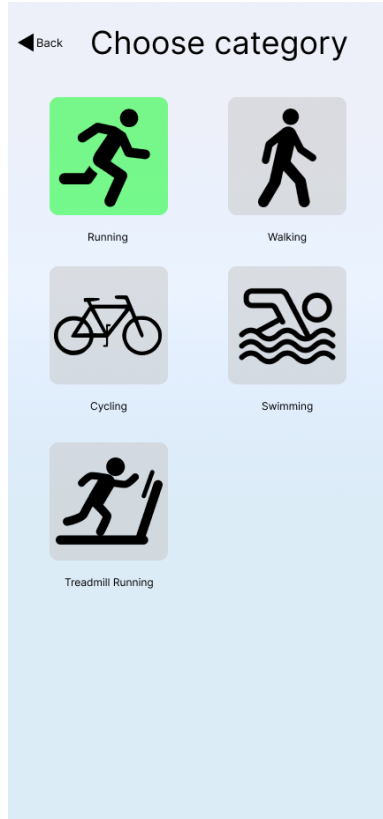- The product shall be able to be translated into English and Thai.

Security:
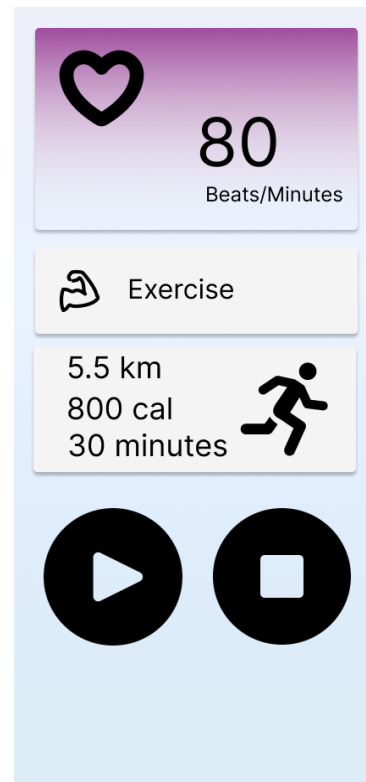- Data encryption following AES-256 encryption for sensitive data

UI Wireframe

These images serve as the UI wireframes depicting the Exercise Tracking feature within the context of the running journey.
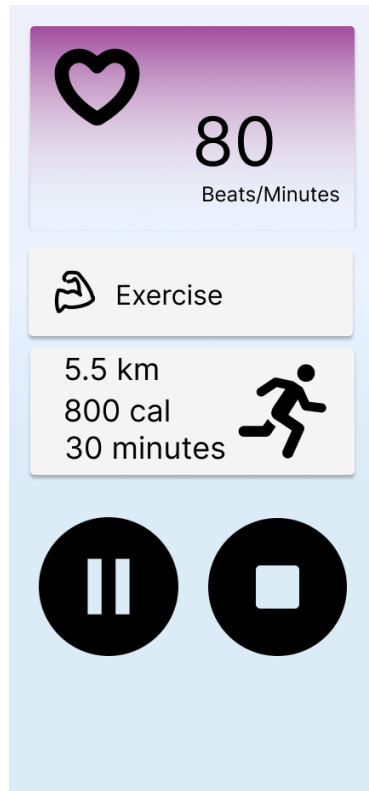
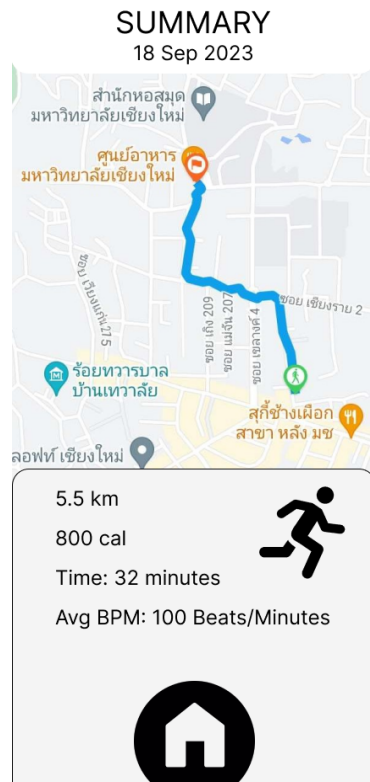| UI-01: Category selection screen	UI-02: Real Time Exercise dashboard (paused)
User can select the exercise category	The application waits for the user to activate the exercise button, then the application records the exercise data and displays the summary in real time.

UI-03: Real Time Exercise dashboard	UI-04: Post-exercise summary
	SUMMARY 18 Sep 2023
The application starts the exercise record. And the users are able to stop or pause with the button.	The application displays the post exercise summary and the running route to the user.