Use Case 1:

Name : t:slim X2 setup

Primary Actors: User of t:slim X2.

Pre-Conditions: The pump must be charged up-to usable battery level using the provided USB cable.

Success Guarantee : The t:slim X2 will be properly setup and be ready to use.

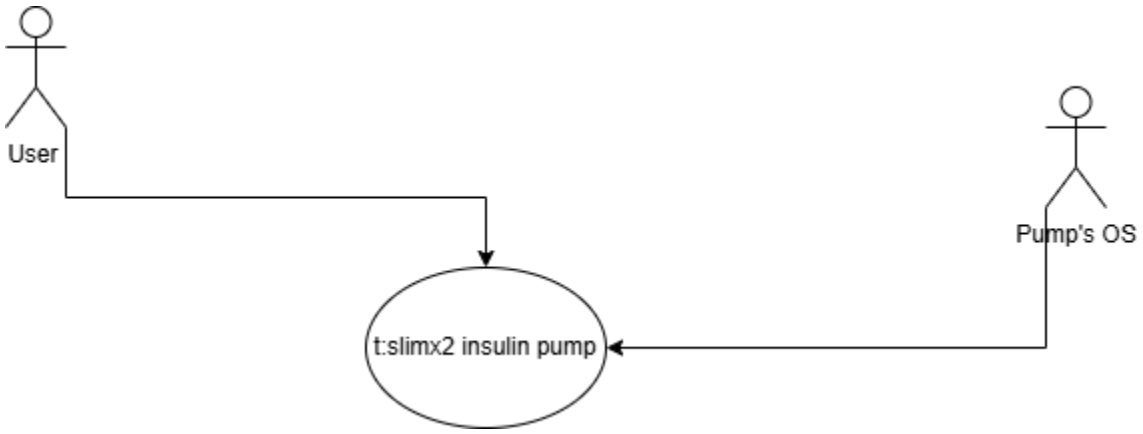
Main Success Scenario:

1. Pump turned on holding power button.
2. Startup sequence is completed.
3. Pin setup for security.
4. Turn off or put it to sleep using options menu.

Extensions:

1. a. Pump does not turn on.
   a1. check battery and make sure it is charged until usable level if not then put the pump back on charging.
3. a. pin is not required.
   a1. Pin setup can be skipped if not required.

Post Condition : Pump is setup and ready to use.



Use Case 2:

Name : Profile Creation and management.

Primary Actors: User

Pre-Condition : The t:slim X2 insulin pump is properly setup and ready to use.

Success Guarantee: The pump will have a new profile for the current user.

Main Success Scenario:

1. Turn on the pump using the power button.
2. Enter option and then enter personal profile.
3. Click on create new profile.
4. Input critical settings.
5. Name the profile.
6. Exit the options as profile is success fully created.

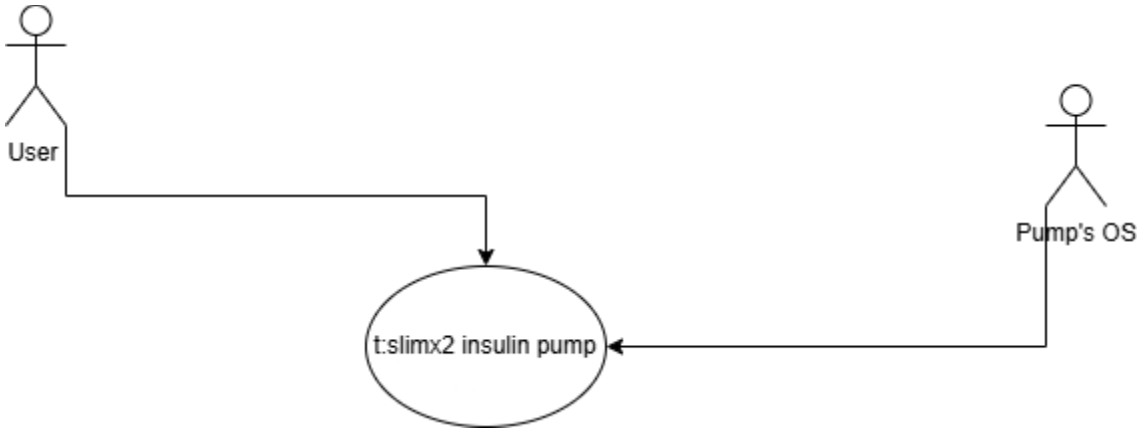
Extensions :

1. a. The pump does not turn on.
   a1. The pump might not be charged enough to turn on. Charge the pump up-to usable level.
   b. The pump require pin to enter.
   b1. The user must have to enter the pin in order to use the pump due to safety reasons.

3. a. The pump has reached maximum number of profiles.
   a1. Delete an old and not needed profile in order to create a new profile
   b. User press on modify profiles
   b1. User can modify old profiles according to requirement and save changes in order to not create multiple profiles with same purpose.

5. a. Name collides with other already existing profile name.
   a1. Profile name must be unique and should not collide with already existing name.

Post condition : Pump is successfully loaded with required profile.


User
Pump's OS
t:slimx2 insulin pump

Use Case 3:

Name : Manual Bolus:

Primary Actor : User

Pre – Condition : Pump is setup, turned on, Charged and is ready to use.

Success Guarantee: The user will receive appropriate bolus.

Main Success Scenario:

1. User Selects appropriate profile.
2. User initiate bolus by accessing bolus calculator.
3. User selects mode of data input.
4. After data input the calculator suggest dose based on profile settings.
5. User selects the bolus mode.
6. User receives dose.

Extensions:

2. a. User can initiate bolus calculator using home screen or physical bolus button.

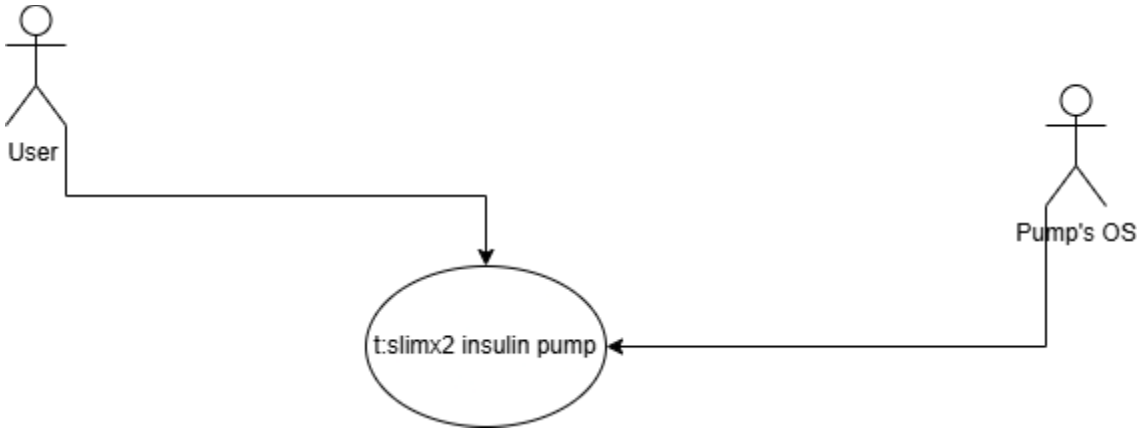
3. a. User selects manual data entry.
   a1. User needs to enter current blood glucose level.
   a2. User enters carbohydrate intake.
   b. User selects automatic data entry.
   b1. The blood glucose levels and carbohydrate intake automatically using CGM.

4. a. suggested dose is more/less of required amount.
   a1. User can manually adjust the does according to requirement.

5. a. User selects bolus mode from extended boluses or quick boluses according to preference.

6. a. User is uncomfortable during dosage.
   a1. User can stop the dosage mid-delivery and continue later according to requirement.

Post condition : User has successfully received a dose.


User
Pump's OS
t:slimx2 insulin pump

Use Case 4: Starting, Stopping, or Resuming Insulin

Primary Actor: User Pre-Condition: Pump is set up, turned on, charged, and ready to use. Control IQ technology is enabled, and the user has an active personal profile.

Success Guarantee: The user successfully manages basal insulin delivery as per their glucose levels and system inputs.

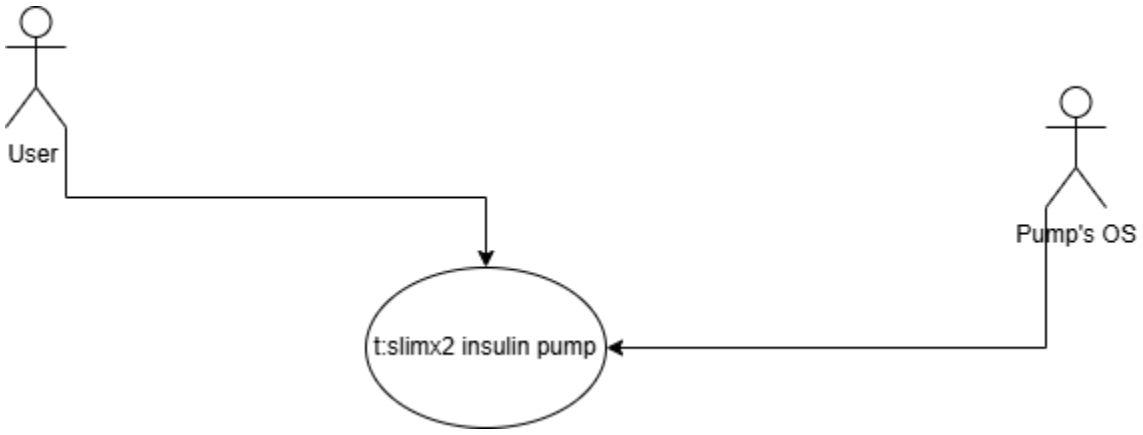
Main Success Scenario:

1. User selects an appropriate basal rate from their active personal profile or configures it manually in the options menu.
2. The pump begins delivering insulin continuously at the specified basal rate.
3. If Control IQ technology detects a glucose level below 3.9 mmol/L, it suspends insulin delivery automatically.
4. The event is logged in the system for future reference.
5. When glucose levels stabilize, the pump resumes insulin delivery automatically or based on user confirmation.
6. The user can also manually stop or resume basal delivery as required via the options menu.

Extensions:

2. a. User manually adjusts the basal rate by overriding the personal profile settings.
3. a. Control IQ technology predicts further glucose drops based on CGM trends and adjusts basal delivery proactively.
4. a. User switches to an updated personal profile for basal insulin delivery based on new health metrics.
5. a. If the user experiences discomfort, they can pause basal delivery and consult the system log to review events before resuming.

Post Condition : user can now successfully manage basal insulin delivery.



Use Case 5: Reviewing Insulin Delivery History Primary

Actor: User

Pre-Condition: Pump is set up, turned on, charged, and actively logging data.

Success Guarantee: The user gains clear insights into their insulin delivery history to monitor and optimize treatment.

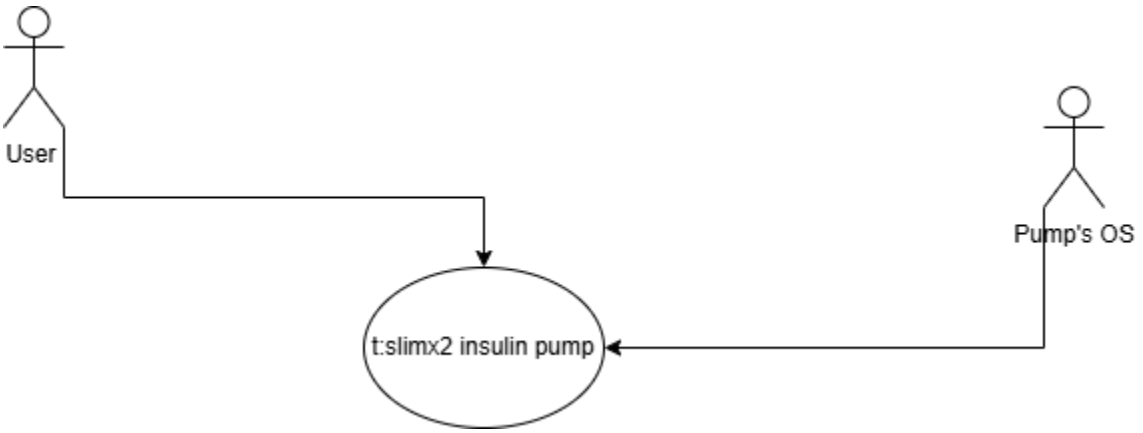
Main Success Scenario: User accesses the current status screen on the t:slim X2 insulin pump.

1. The system displays recent events, including the time and amount of the last bolus, basal rate changes, and alerts triggered by CGM readings.
2. User reviews logged data such as basal rates, bolus injections, insulin duration, and correction factors.
3. Patterns or irregularities in glucose control become evident from the data.
4. User identifies events requiring adjustment or consultation with their healthcare provider.
5. Data is used to optimize future treatment plans in collaboration with medical professionals.

Extensions:

2. User views detailed log entries for specific events, such as suspended basal rates during low glucose incidents.
3. a. Logged data is downloaded to an external device or app for further analysis.
4. a. Healthcare provider remotely accesses and reviews stored history via connected systems, providing personalized recommendations.
5. a. User customizes report formats (e.g., daily, weekly summaries) for more convenient tracking.

Post condition : User can now successfully access and store data.



Use Case 6: Insulin pump malfunction
Primary Actor: User
Pre – Condition: Pump is setup, turned on, charged, and in active use.
Success Guarantee: The user is alerted of the malfunction and guided to take appropriate corrective action.

Main Success Scenario:

1. Pump detects a malfunction.
2. Pump identifies the type of issue (e.g., battery, insulin, occlusion, CGM).
3. Pump suspends insulin delivery if critical error occurs.
4. Pump displays alert with appropriate message and guidance.
5. User follows guidance to correct the issue.
6. Pump resumes normal operation if issue is resolved.

Extensions:
2. a. Malfunction types include:
    a1. Low battery – alert advises to recharge.
    a2. Low insulin – alert advises to refill cartridge.
    a3. CGM disconnected – alert advises to reconnect CGM.
    a4. Occlusion – alert advises to check infusion site.

3. a. If error is critical (e.g., shutdown):
    a1. Pump suspends all delivery.
    a2. Display shows guidance to restart or contact support.

4. a. User unable to resolve issue.
    a1. Pump logs error and advises to contact healthcare provider or Tandem support.

5. a. Pump resumes operation automatically or after user resolves issue.
    a1. If unresolved, pump stays in safe mode until further action.

Post Condition: Pump malfunction is acknowledged, handled, and either resolved or escalated.

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