t:slim X2 Simulation: Use Case Model

Use Case: Delivering Insulin through Manual Bolus

Primary Actor: Insulin Pump User
Scope: t:slim X2 daily use.
Level: User-goal
Stakeholders and Interests: none
Precondition: Device is set up and attached to body, and is turned on
Minimal Guarantee: Process can be aborted by the user anytime
Success Guarantee: Specified amount of insulin is delivered to the body through the bolus based on the user's request.
Main Success Scenario:

1. User presses the Bolus button on the user interface home screen or device and opens the Bolus Calculator Screen
2. Blood glucose level and carbohydrate intake are automatically obtained from the CGM
3. An appropriate dose is calculated based on programmed settings
4. User presses start button and insulin dose is administered
5. Status on home page is updated accordingly

Extensions:

2a) User is able to manually enter specified values for blood glucose level and carbohydrate intake

3a) User is able to override the dose suggested by the machine.

4a) User may decide on a time period for delivery, should they want delivery over a long period, or an immediate bolus

4b) Delivery process may be cancelled at any time.

Use Case: Displaying Pump Info

Primary Actor: Insulin Pump User
Scope: t:slim X2 device lifetime.
Level: User-goal
Stakeholders and Interests: none
Precondition:
Minimal Guarantee: Recent information is logged.
Success Guarantee: User is able to view current and recent health information.
Main Success Scenario:

1. User goes about their day, using the device as normal
2. Machine collects general information and stores in short term memory
3. User accesses Current Status screen from
4. Recent general data is displayed.

Extensions:
2a) Data collected includes: time and amount of the last bolus, changes in basal rates, or alerts triggered by CGM readings

Note for implementing: See User Guide Chapter 3.8 (pg.50)

Use Case: Displaying Pump History

Primary Actor: Insulin Pump User
Scope: t:slim X2 device lifetime.
Level: User-goal
Stakeholders and Interests: Healthcare providers
Precondition:
Minimal Guarantee: Significant action details are saved.
Success Guarantee: User is able to view a usage history of at least 90 days.
Main Success Scenario:

1. User uses device as normal for an extended period of time
2. Machine collects and saves data to long term memory
3. User accesses the Pump History screen.
4. Data is displayed to the user.
5. Users or healthcare providers may examine data.

Extensions:
2a) Information such as total insulin delivery by basal and bolus types into units and percentages. Such is stored by the day. Other events such as Alerts are also stored.
2b) Once the maximum number of events is reached, oldest events are erased from memory and replaced with new events.

4a) Data can be displayed in a variety of days, e.g. viewing insulin delivery by days, weeks, months etc…, filtering events by type

Note for implementing: See User Guide 9.2 (pg 112)