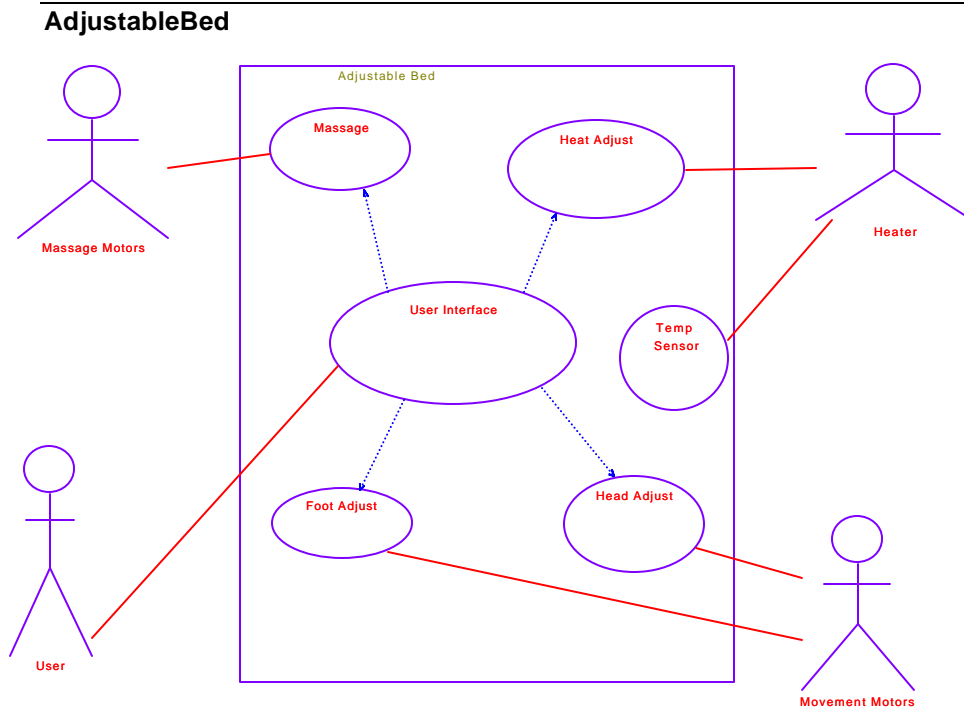

AdjustableBed

**Report on Configuration
DefaultConfig**

PACKAGES

AdjustableBed

USE CASE DIAGRAMS:



GLOBALS:

ACTORS:

Heater

Will respond to commands from Heat. The actual temperature will correspond to the setting sent to heater by Heat. There exists a condition that will automatically shut off heater if Temp Sensor reads a temperature exceeding the MAXHEAT. The heater will resume response to Heat commands once the condition of Temp Heat has returned to normal.

Relations:

itsHeat Adjust

Association with Heat Adjust, Multiplicity of 1, Bi-directional

itsTemp Sensor

Association with Temp Sensor, Multiplicity of 1, Bi-directional

Massage Motors

Turn on/off in response to commands sent by Massage. The amplitude of the motors is controlled by a message sent from Massage. The amplitude is universal over each of the 10 motors (ie no two motors can have different amplitudes at the same time).

Relations:

itsMassage

Association with Massage, Multiplicity of 1, Bi-directional

Movement Motors

Movement motors actually move the bed. They receive the commands from either foot adjust or head adjust. The motor will then move the bed into the correct inclines.

Relations:

itsHead Adjust

Association with Head Adjust, Multiplicity of 1, Bi-directional

itsFoot Adjust

Association with Foot Adjust, Multiplicity of 1, Bi-directional

User

User of the bed will decide how to use the features of the bed. The user will adjust the bed to the desired angles, adjust the amplitude, speed, and pattern of the massage feature, and adjust the temperature of the heat feature.

Relations:

itsUser Interface

Association with User Interface, Multiplicity of 1, Bi-directional

USE CASES:

Foot Adjust

Controls the degree of incline of the foot of the bed, ranging from 0 to 45 degrees. The degree setting is delivered from user interface and the activation command is sent to the movement motor.

Relations:

itsMovement Motors

Head Adjust

Controls the degree of incline of the head of the bed, ranging from 0 to 60 degrees. The degree setting is delivered from user interface and the activation command is sent to the movement motor.

Relations:

itsMovement Motors

Heat Adjust

Receives on/off commands as well as a temp setting from the user interface. Heat will operate within a range determined to be safe for the user, ranging from 0 to MAXHEAT. Heat will adjust the heater according to the heat commands received from the user interface.

Relations:

itsHeater

Massage

There are 10 massage motors throughout the bed, five on either side. There are motors located at the head, shoulder, lower back, knee, and foot. The user interface tells massage which motors to activate, which pattern to run the motors on, and the amplitude of the massage motors. Massage then begins sending commands to the motors, sending on/off messages relating to the massage pattern selected by the user. The amplitude setting of each motor is changed each time a change is sent from the user interface.

Relations:

itsMassage Motors

Temp Sensor

Monitors the actual temperature of Heater. If the heat raises beyond the safe limits, a message will be sent to Heater that will automatically shut heater off. Once heat drops to safe conditions, a command will be sent to heater to allow heat settings from Heat to be received once again.

Relations:

itsHeater

User Interface

The user interface will read in all commands from the user and direct them to the appropriate feature. It should read in:

-a message to raise/lower the head of the bed (begin movement at the press of the button, stop at the release of the button). -->Send to head adjust

-a message to raise/lower the foot of the bed (begin movement at the press of the button, stop at the release of the button).

-->Send to foot adjust

-read in heat setting from an analog input and heat location from digital input

-->Send to heat adjust

-read in message amplitude from analog input and message locations and patterns from digital input

-->Send to message

Interface also lights up lights in accordance with the activation of a massage motor. (when a massage motor is running, the corresponding light is lit).

Relations:

itsUser

COMPONENTS

DefaultComponent

COMPONENT SETTINGS:

Build type: Executable

CONFIGURATIONS:

DefaultConfig

Scope type: Explicit

Instrumentation type: None

Time-model type: Real-time

Statechart generation type: Flat

FILES AND FOLDERS:

Well done.
Go for it.

APPROVED