Outline of Simulator Application

The home page of the project will give basic information about the purpose of the simulator, why it is useful to gather data and configure smart environments, how the simulator works, research in the areas of smart environments and the steps involved in using this application. There will be a button to move on to the actual simulator steps.

There are five steps involved;

1. Creation of devices/objects.
2. Placement, sizing and organization of devices/objects.
3. Configuration of rules.
4. Simulation.
5. Resulting statistics and graphs of analytical information.

General Layout of the application

Step1

Canvas/Pane showing empty room

Information gathering

Option 1

Step 1: Creation of devices/objects

The first step we must get the information about the inhabitant of the house, most importantly his name as that will be the name used on the avatar in the simulator. Also requested but not required are any comment and care-plan information. The most important information at this stage is the information about all the devices that the user wants to have in the smart environment.

Info

Done

Load

Step 5

Step 4

Step 3

Step 2

Step1

Canvas/Pane showing empty room

Patient Name

Care-plan

Comment

Location Description

Device description

Units

Initial default value

|ADD DEVICE|

Besides the forms for inhabitant details, room description, care plan and a comment the more necessary forms for devices will include device description, units, initial value. The device ID will be automatically generated and added to each device upon clicking for a new device. The initial value goes into an event (the first event to be precise, its time stamp is not filled in until later with the simulation beginning).

The option buttons on the page will be “Done” and “Load previous dataset”. The done option is only allowed when the required fields have been filled.

Step 2: placement sizing and organization of devices/objects

The sets of forms filled in step 1 become drag-able boxes representing the objects defined in step 1. Once on the Pane representing the smart environment room they can be resized appropriately and moved in the pane. Once all objects are moved in to position and the use wishes to move onto step 3, the coordinates of the objects are added to the homeML device x and y positions.

Bed

Canvas/Pane showing empty room

Step1

Step 2

Back

Done

Chair

Step 3 Configuring rules

In step 3 we input values for the rules where the user can only choose from the devices he has described in step 1 and 2. As the user is writing the rules the devices he mentions are highlighted in the canvas pane to help clarify what objects are involved in the rule.

Bed

Rule Description

Outcome

What do you want to happen

Drop down menu of devices

Menu of possible device states or form for input value

Canvas/Pane showing empty room

Step1

Step 3

Back

Simulate

Chair

TV

Step 4: Simulation

This is the most interactive of all the steps. The Start button will initialise a time stamp into the events without a time stamp, any change of object value will be an event that will be recorded

When the user is finished his new gathered data of events will be added to the log file and he will be brought to step 5

Bed

Realtime Logs

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Canvas/Pane showing empty room

Step1

Step 3

Step 4

Begin/Resume

Stop/Finish

Chair

TV

Step 5

On the results page the user can view each event statistic, and use a slider to move from event to event.

Slider to show event by event guide.

Different data formats available.

Step1

Step 3

Step 4

ReSimulation

Download