

How to extent an Object / How to add a property to an Object in Sweet Home 3D

In general there are two options to extent an SH3D object's properties. The first (1) is to modify the according object functions within SH3D and the second (2) is to create a separate object class, which I would recommend, since therefore the code changes within the original SH3D version will be kept small and updates might still be possible by just undoing a few steps. I recently had to deal with (1) and thus In this document the process of (1) is described and some hints about (2) are given.

The main classes which need to be changed are *HomeFurnitureController* and *HomeFurniturePanel*. Furthermore, there are changes needed in *HomePieceOfFurniture*, *PieceOfFurniture* and *CatalogPieceOfFurniture* in the case of (1). In the case of (2) one should create new classes which inherit from these three aforementioned classes.

Now the action steps which have to be taken are listed:

1. Extent the three classes *HomePieceOfFurniture*, *PieceOfFurniture* and *CatalogPieceOfFurniture* (1) with the property you want to add or create three new classes which inherit from those and add in the property you want (2). Also add getters and setters and other required things. (see *URDFObject*, etc.)
2. In case of (2):
 - a) Modify **HomeController.java**: call the constructor of the class you created yourself. In create **addHomeFurniture** add the same for your class.
 - b) Modify **FurnitureCatalogTransferHandler.java**: call the constructor of the class you created yourself. In **createTransferable** add the same for your class.
3. Modify **HomeFurnitureController.java**:
 - a) Add in the controlled property name, the controlled variable (this does not need to be the same as in the object: e.g. Boolean instead of boolean, if you want to use a *NullableCheckbox*) itself and the necessary getters and setters.
 - b) Add the variable within the private class **ModifiedFurniture**
 - c) Add a set function within the **updateProperties** function.
 - c) In case of (2) add in **addHomeObject** the part of your new class.
4. Modify **HomeFurniturePanel.java**:

In case of (2) you can create your own Panel class which you then can add to the *HomeFurniturePanel* (see *URDFPanel.java*)

 - a) Extend the constructor with the variable
 - b) Change **setMnemonics**, if wanted (optional)
 - c) Create in your new component within **createComponents** (e.g. create a *Checkbox* or *JSpinner*) and add the *PropertyChangeListener* accordingly.
 - d) Add Label-Names, if needed, within the external (Swing-) **package.properties** file, where all descriptive strings are saved. (optional)

- e) Add component within **LayoutComponents** e.g. to the *GridBagLayout*.
The element should be displayed afterwards.

5. Modify more in **HomeFurnitureController.java**:

- a) Change **DoModifyFurniture** accordingly
- b) Change **ModifyFurniture**
- c) Change **FurnitureModificationUndoableEdit**.

I am not sure anymore what to do with this last part in the case of (2). This somehow needs to be treated. In my program also when clicking cancel in the GUI the changes would be taken. So therefore, this needs to be considered, if this approach is chosen.