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TU Dortmund - Department of Computer Science
Software Engineering – Prof. Dr. J. Jürjens
Softwarekonstruktion - Exercise 8, 09.12.2010

Softwarekonstruktion - Exercise 8

8 JavaBean MeasuringInstrument

8.1 Programming

- Download the NetBeans Project *MeasuringInstrument* from `http://inky.cs.tu-dortmund.de/main2/jj/teaching/ws10/swk/uebungszettel/measurebean.zip`.

- Extract the archive to your `NetBeansProjects` folder.

- Open the project in NetBeans (*File → Open Project . . .*).

`MeasuringInstrumentBean` is a visual component which displays data as a bar diagram as well as on a digital display.

Complete the source code of the `MeasuringInstrumentBean`:

- `scale` is a **simple** property which is used to store the grain size of the scale of the displayed bar diagram. The methods `setScale` and `getScale` must be completed accordingly.

- `minValue` and `maxValue` are **bounded** properties which are used to store the lower and upper bound of the displayed bar diagram. The methods `setMinValue`, `getMinValue`, `setMaxValue` and `getMaxValue` must be completed accordingly.

- `value` is a **constrained** property which is used to store the actual value of the measurement. The methods `setValue` and `getValue` must be completed accordingly.

Note: When an attribute has been set, the method `repaint()` should be called.

8.2 Installation

Make the `MeasuringInstrumentBean` available in Netbeans:

- To create a `JAR` file in NetBeans, right-click on the project folder and select *Clean and Build*. The generated `JAR` can be found in `NetBeansProjects/MeasuringInstrument/dist`.

- First, create a new *Java Aplication*-Project (without generating a main class). Then create a `JFrameForm` (right-click on the new project folder → *New → JFrameForm . . .*).

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- Right-click `MeasuringInstrumentBean.java` → *Tools* → *Add to Palette ...* → *Beans*.

- Use drag and drop to add the `MeasuringInstrumentBean` from the *Palette* to the created `JFrameForm`.

8.3 Testing

Test the `get`- and `set`-Methods of simple, bounded and constrained properties of the `MeasuringInstrumentBean`. To do this, implement a `PropertyChangeListener` and a `VetoableChangeListener` according to slides 216 and 227. The `get`- and `set`-Methods of the properties can be called within the constructor of the `JFrame` (after `initCompo-nents()` has been called).