

```
package fi.paatti.research.paattiaapplication.views.eventview.tools;
```

```
import fi.paatti.research.paattiaapplication.views.eventview.EventTool.NODE_MODES;
import fi.paatti.research.paattiaapplication.views.eventview.tools.NodeFactory.NODE_TYPE;
import fi.paatti.research.paattiaapplication.views.eventview.tools.NodeFactoryTreeNode;
import java.awt.Color;
import java.awt.Graphics;
import java.io.Serializable;
import java.util.LinkedList;

/*
 * ContextMenu is a simple clickable "container" that holds other clickables
 * knows as MenuItems. ContextMenu acts merely as a larger click detector around
 * the defined sub-clickables, returning the values of the selected menu items
 * (if any).
 */
* @author Tapiro Keränen, t.tappio.keranen@student.jyu.fi
*/
public class ContextMenu extends Clickable implements Serializable {

    // Default sizes for the menu items and the context menu (width).
    private static final int MENU_ITEM_WIDTH = 150, MENU_ITEM_HEIGHT = 20;
    // ContextMenu's visibility.
    private boolean visible;
    // Clickables to display when the item clicked in the tree view was a node.
    private LinkedList<MenuItem> nodeMenuItems;
    // Clickables to display when the item clicked in the tree view was null.
    private LinkedList<MenuItem> nullMenuItems;
    // Current displayed list of clickables.
    private LinkedList<MenuItem> currentItemList;

    /**
     * ContextMenu constructor.
     */
    public ContextMenu() {
        width = MENU_ITEM_WIDTH;
        nodeMenuItems = new LinkedList<MenuItem>();
        nodeMenuItems.add(new MenuItem("Siirrä solmu", NODE_MODES.MOVE_NODE, null));
        nodeMenuItems.add(new MenuItem("Lisää lapsi", NODE_MODES.ADD_CHILD, null));
        nodeMenuItems.add(new MenuItem("Poista solmu", NODE_MODES.REMOVE_NODE, null));

        nullMenuItems = new LinkedList<MenuItem>();
        nullMenuItems.add(new MenuItem("Lisää tekstisolu", NODE_MODES.ADD_NODE, NodeFactory.NODE_TYPE.DEFAULT));
    }
}
```

```
    nullMenuItems.add(new MenuItem("Lisää radiosolmu", NODE_MODES.ADD_NODE, NodeFactory.NODE_TYPE.RADIO));
```

```
}
```

```
/**
```

```
 * Moves the context menu to the given coordinates and sets the menu visible,
```

```
 * displaying a list of clickable items based on the type of the node given
```

```
 * as a parameter.
```

```
*
```

```
 * @param x the x coordinate.
```

```
 * @param y the y coordinate.
```

```
 * @param node the node that was clicked (if any).
```

```
*/
```

```
public void show(int x, int y, TreeNode node) {
```

```
    this.x = x;
```

```
    this.y = y;
```

```
    currentItemList = (node == null) ? nullMenuItems : nodeMenuItems;
```

```
    for (int i = 0; i < currentItemList.size(); i++) {
```

```
        currentItemList.get(i).setPos(x, y + i * MENU_ITEM_HEIGHT);
```

```
    }
```

```
    height = currentItemList.size() * MENU_ITEM_HEIGHT;
```

```
    visible = true;
```

```
}
```

```
/**
```

```
 * Returns the visibility state of the context menu.
```

```
*
```

```
 * @return true if visible, otherwise false.
```

```
*/
```

```
public boolean isVisible() {
```

```
    return visible;
```

```
}
```

```
/**
```

```
 * Returns the menu item found at (x,y) and hides the context menu. If no
```

```
 * menu item was found, a null value is returned instead.
```

```
*
```

```
 * @param x the x coordinate.
```

```
 * @param y the y coordinate.
```

```
 * @return the context menu item found, if any.
```

```
*/
```

```
public MenuItem getMenu(int x, int y) {
```

```
    MenuItem selectedMenuItem = null;
```

```
if (contains(x, y)) {
    for (MenuItem menuItem : currentItemList) {
        if (menuItem.contains(x, y)) {
            selectedMenuItem = menuItem;
            break;
        }
    }
}

visible = false;

return selectedMenuItem;
}

/**
 * Paints the items added to the context menu.
 */
public void paint(Graphics g) {
    if (!visible) {
        return;
    }

    for (MenuItem menuItem : currentItemList) {
        menuItem.paint(g);
    }
}

/**
 * MenuItem is a clickable that contains event tree tool enums used in
 * controlling the tool states and the types of nodes to be added to the
 * tree (if any).
 */
public class MenuItem extends Clickable implements Serializable {

    private String caption;
    private NODE_MODES nodeMode;
    private NODE_TYPE nodeType;

    private MenuItem(String caption, NODE_MODES nodeMode, NODE_TYPE nodeType) {
        this.caption = caption;
        this.nodeMode = nodeMode;
        this.nodeType = nodeType;
        super.width = MENU_ITEM_WIDTH;
    }
}
```

```
super.height = MENU_ITEM_HEIGHT;
}

/**
 * Positions menu item to the coordinates given as parameters.
 *
 * @param x the x coordinate
 * @param y the y coordinate
 */
private void setPos(int x, int y) {
    this.x = x;
    this.y = y;
}

/**
 * Returns the node mode set to the menu item.
 *
 * @return node mode (tree tool state)
 */
public NODE_MODES getNodeMode() {
    return nodeMode;
}

/**
 * Returns the node type set to the menu item.
 *
 * @return node type
 */
public NODE_TYPE getNodeType() {
    return nodeType;
}

/**
 * Paints the menu item to the current graphics context.
 *
 * @param g graphics context
 */
public void paint(Graphics g) {
    g.setColor(Color.white);
    g.fillRect(x, y, MENU_ITEM_WIDTH, MENU_ITEM_HEIGHT);

    g.setColor(Color.black);
    g.drawRect(x, y, MENU_ITEM_WIDTH, MENU_ITEM_HEIGHT);

    g.drawString(caption, x, y + MENU_ITEM_HEIGHT);
}
```

```
}
```