# Code Smells

## Boolean expressions should not be gratuitous

Found: @SE2122\_55677\_56773\_\_56971\_57066\_58655/src/main/java/org/jabref/model/entry/event/FieldChangedEvent.java



In the first if we begin by checking if oldValue and newValue arguments are equal to each other, if this condition fails we know that the arguments are different from each other and we move on to next else if.

In the first else if we check if oldValue equals null and if newValue is different from null. We reach this else if when the if before returns false, meaning when reach this else if we know that the oldValue and newValue have different values. Making the second part of this else if condition completely pointless, because we know that both arguments are different and if oldvalue is equall to null newValue will never be null . The same reasoning can be applied to next else if.

### Proposed Solution:

I recommend we change this two first else if conditions to something like this:



## Constructors of an "abstract" class should not be declared "public"

### Found:

@SE2122\_55677\_56773\_\_56971\_57066\_58655/src/main/java/org/jabref/model/groups/AutomaticGroup.java



@SE2122\_55677\_56773\_\_56971\_57066\_58655/src/main/java/org/jabref/model/groups/KeywordGroup.java



Abstract classes should not have public constructors. Constructors of abstract classes can only be called in constructors of their subclasses. So there is no point in making them public.

### Proposed Solution:

We should change the visibility to protected, like so:





## String literals should not be duplicated

### Found:

@SE2122\_55677\_56773\_\_56971\_57066\_58655/src/main/java/org/jabref/model/openoffice/ootext/OOTextIntoOO.java





As we can see, in the areas highlighted in yellow, we have a lot of occurrences where we use string literals instead of the already appropriated defined constants, duplicating this string literals.

This makes the process of refactoring error-prone, since we must be sure to update all occurrences. Making constants a much more appealing solution since they can be referenced in many places and only need to be updated in a single place, when we refactor something.

### Proposed Solution:

I recommend we change all the occurrences highlighted in yellow to the appropriate constants, like so:



