Specification of Software 2016/17
Instituto Superior Técnico

2^{nd} Project

Alloy Model Due: December 9, 2016, 21:59:59

Final Report Due: December 10, 2016, 21:59:59

1 Hand-in Instructions

You should follow the following steps to hand-in Project 2.

Saving Alloy Project

- Make sure your project is named `ZoberGXXP21617` in Alloy, where `XX` is the group number, before saving it.
  Always use two digits, that is, Group 8's project should be named `ZoberG08P21617`.
- Select *Save As* and chose the filename `ZoberGXXP21617.als` to save your project.

What Should be in the Final Alloy File As stated in the assignment, *each group should perform the verification of the developed model. For that, they should write the assertions developed for the model and that are derived from the conditions presented in Section 2.6. They should use the Alloy tool (http://alloy.mit.edu/alloy/index.html) to verify these assertions.*

The final file should include a proper **check** `<assertion>` for each such assertion. An appropriated scope should be selected.

Recall also that, while developing your system in Alloy you should refer (as a comment) in each function/predicate/pre-condition/post-condition/fact/assertion, which of the requirements are being implemented (if any). Failing to do this will be penalised in the Quality of the solution.

Documenting the Development Process Each group should hand-in a `PDF` file of **no more than 1 page** describing their development strategy. **Use a reasonable font size!**

This file should be named `ZoberGXXP21617.pdf`, where `XX` is the group number.

They should in this text describe the strategy used to develop the system, namely which information is recorded by each signature, together with a diagram that illustrates their extensions and inclusions. Also, any properties that were added to the model, and not specified in the project assignment, should be stated and discussed here.

Pack it All in a Single File and Upload it in Fenix Create a zip file with the name `ZoberGXXP21617-all.zip`, where `XX` is the group number, containing the other two files `ZoberGXXP21617.als` and `ZoberGXXP21617.pdf`. Upload it in Fenix prior to the deadline.

Final Remarks `PDF` files that are longer than 1 page, that do not use reasonable font size (min $11pt$), and Projects that cannot be open will not be graded.

It is the responsibility of the students to check that it is possible to import the project. We suggest to try it in a different machine.

A Possible Template for Documenting the Development Process

NOTICE THAT THIS TEMPLATE IS JUST A SUMMARY OF WHAT SHOULD BE DONE, I.E., A SUGGESTION. BY NO MEANS IT IS INTENDED TO BE A COMPLETE DESCRIPTION OF WHAT SHOULD AND NEEDS TO BE DONE TO ACHIEVE THE HIGHEST GRADE!

In our project we have the following XX Signatures.

Signature 1: `<Name>` This signature represents the elements of type t. These elements have characteristics a, b, and c represented respectively by attributes fa, fb, and fc.

We modelled this as *yada yada yada* because `<insert smart reason>`.

Signature 2: `<Name>` This signature extends Signature `<Name>`. In this extension we incorporated characteristics a', b', and c' to elements of type t', because x', y', and z', and modelled them using respectively attributes fa', fb', and fc'.

We modelled this as *yada yada yada* because `<insert smart reason>`.

We did this way because `<insert an even smarter reason>`.

...

Dynamic Part of the Model The dynamic part of our model was dealt in the following way: `<insert an explanation here, in particular how sigs evolve over time, and which are the available transitions>`.