Requirements Processing Tool

Software project user-documentation

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1   First start of the *Reprotool*

When you run *Reprotool* for the first time, an *eclipse* welcome page will be displayed. Close this page. The next thing you need to set up is to select the *Reprotool* perspective in the *eclipse IDE*. Now open the *Open Perspective dialog* with the

```
Window / Open Perspective / Other
```

menu command. Now select *Reprotool* and click OK. The *Reprotool* perspective will now be showed in your *eclipse* workbench. It looks like this:
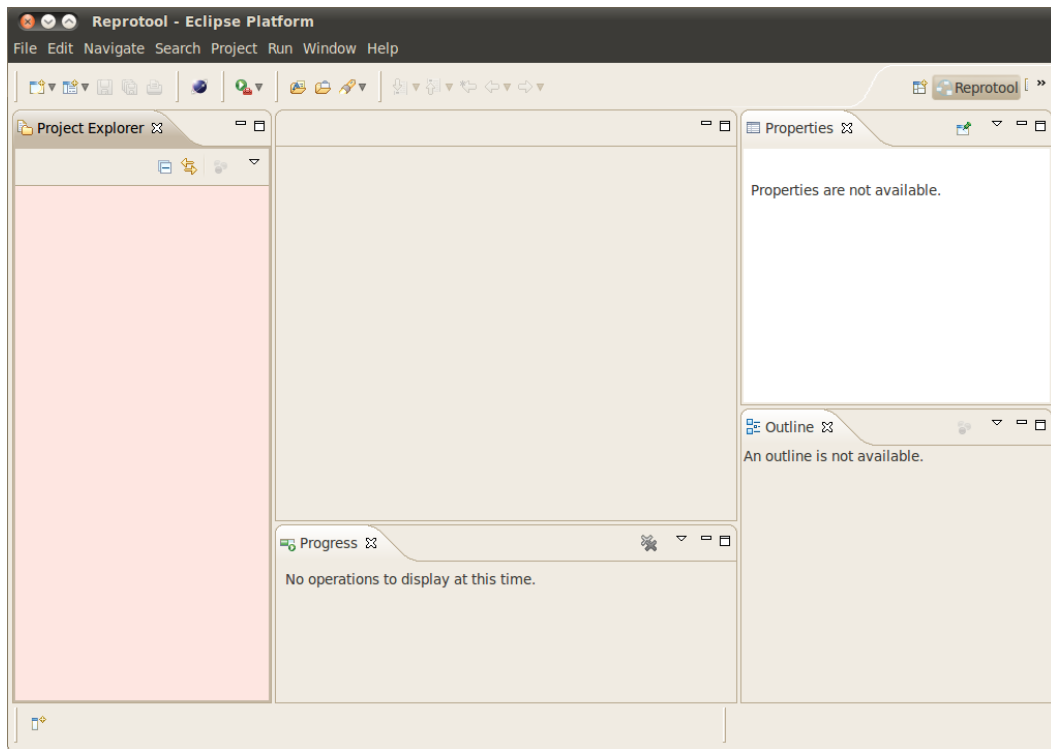

Figure 1: Empty *Reprotool* perspective

2   Create a new *Reprotool* project

In this section we will walk through the process of creating a new simple *Reprotool* project named *PostOffice*.

2.1   *PostOffice* project description

We will create a simple *PostOffice* project that describes how a letter is written and then taken to the post office. Our simple project will contain three use-cases and two actors. The *PostOffice* project contains these use-cases:

1. **buyEnvelope**

2. **writeLetter**

3. **takeLetter**

The *PostOffice* project has these two actors specified:

1. **Peter** He writes a letter.

2. **officer** He works at the post office.

2.1.1   The *buyEnvelope* use-case

This use-case has the following structure:

1. Peter goes to the shop

2. Peter stands the queue

3. Peter buys the envelope

4. Peter goes home

2.1.2   The *writeLetter* use-case

1. Peter looks at his watches.

   Peter does not have enough free time:

   (a) Peter does something more important.

2. Peter writes the letter.

3. Peter checks if he has a spare envelope.

   Peter does not have a spare envelope:

   (a) Peter leaves the building.

   (b) Include use-case buyEnvelope.

4. Peter opens the envelope.

5. Peter puts the letter into the envelope and closes it.

2.2   Create a *Reprotool* project

Create a new *Reprotool* project using the command

```
File / New / Reprotool Project
```

A *new project* dialog fires up. Enter the project name *postOffice* and press *Enter*. The new *postOffice Reprotool* project has been created. You can view it now in the *Project Explorer*. Now the *project editor* has started and we can start editing our (now empty) project.

The first thing we are going to do is to add actors to our project. You add actors by clicking the green *plus* sign above the *Actors* field in the *project editor*. Now please add the two actors to our project.

2.3   Add use-cases to our project

Now we are going to add the use-cases to our project. We will describe the process in greater detail for the use-case *writeLetter*. You add a use-case by clicking the *plus* sign above the Use-cases field of the *Project editor*. After clicking on the *plus* sign, the *Use-case* editor has started. Now we are going to edit the use-case.

Firstly, enter the use-case name *writeLetter* and think of a suitable *description* of the use-case. Then select the *Peter* as the *primary actor* of the use-case.

Now it is time to add the individual use-case steps to our use-case. Notice that the use-case by default already contains one single use case step. You add other steps by right-clicking on use-case step and select the

```
New Sibling / Use Case Step
```

command. Now proceed by firstly adding the steps of the *main scenario* only. That is, add the following steps to the use-case:

1. Peter looks at his watches.

2. Peter writes the letter.

3. Peter checks if he has a spare envelope.

4. Peter opens the envelope.

5. Peter puts the letter into the envelope and closes it.

Now we will add an *extension scenario* to the use-case step 1 (Peter looks at his watches). An *extension scenario* is an ordered set of steps than can be attached to some use-case step. The steps of an extension scenario are executed *after* the execution of the associated step if the associated condition is met. So now right-click the first use-case step and select this command:

```
 New Child / Extensions scenario
```

A new *extension scenario* has been created. It has the label *1a (ext.)* because it is attached to the use-case step with label *1*. The created scenario by default contains a single step. Enter this text in the use-case editor right next to the label *1a (ext.)*

```
Peter does not have enough free time:
```

Then fill the single use-case step of our extension scenario with this text:

1. Peter does something more important.

Now create an extension scenario to the step three in a same way. But now attach this text to the extension scenario:

```
Peter does not have a spare envelope:
```

Add a second step to the extension scenario so that it is 2 steps long. And fill the steps with this text:

1. Peter leaves the building.

2. Include use-case buyEnvelope.

Now we are finished with the *writeLetter* use-case. Proceed in a similar way and create the other two missing use-cases. Select *Peter* as the *primary actor* of the use-case *buyEnvelope* and select the *Officer* as the primary actor of the *takeLetter* use-case.

In the following figure you can view the *PostOffice* project while editing the *takeLetter* use-case.
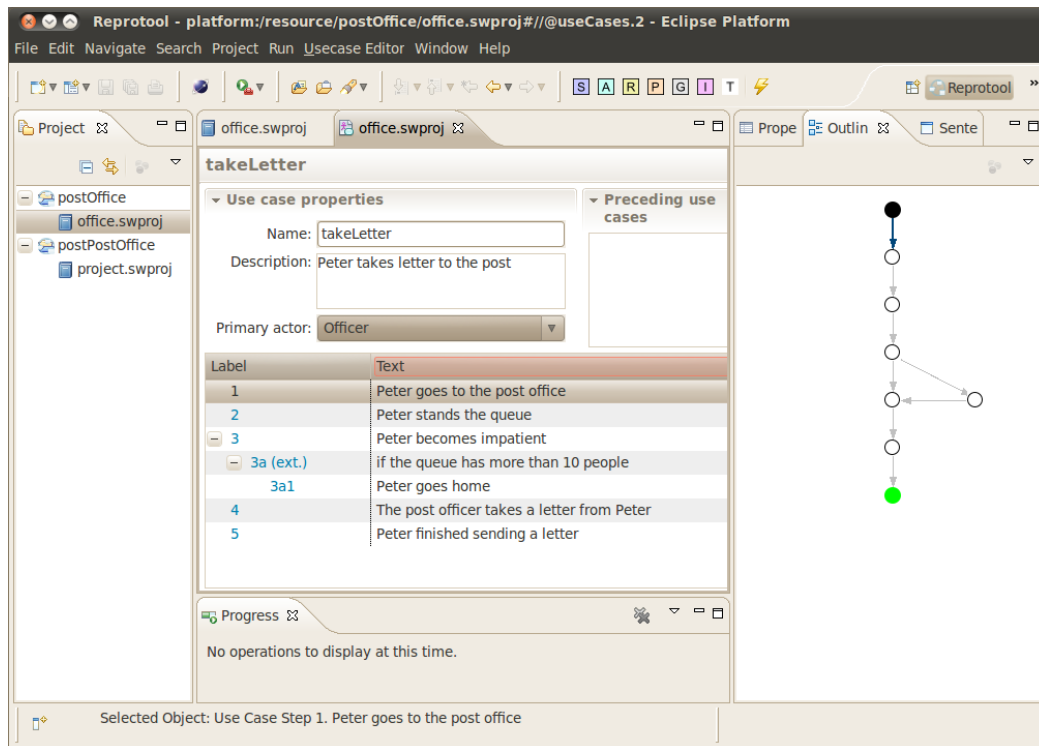
Figure 2: *takeLetter* use-case

2.4   Add *actions* to the use-case steps

In this step we will need the *Sentence Analysis* view. You can display it by this command:

```
Window / Show View / Other
```

and select *Reprotool* from the dialog box that appears. Now click on the *Sentence Analysis* and click OK. This should make the *SentenceAnalysis view* visible.

2.4.1   *Actions* in the *writeLetter* use-case

Now we will define the *Abort* action for the only use-case step of the first step extension scenario. Click on the use-case step with label *1a1* and select *Abort* as *Action Type* in the *Sentence Analysis View*. You can view this situation in the next picture:
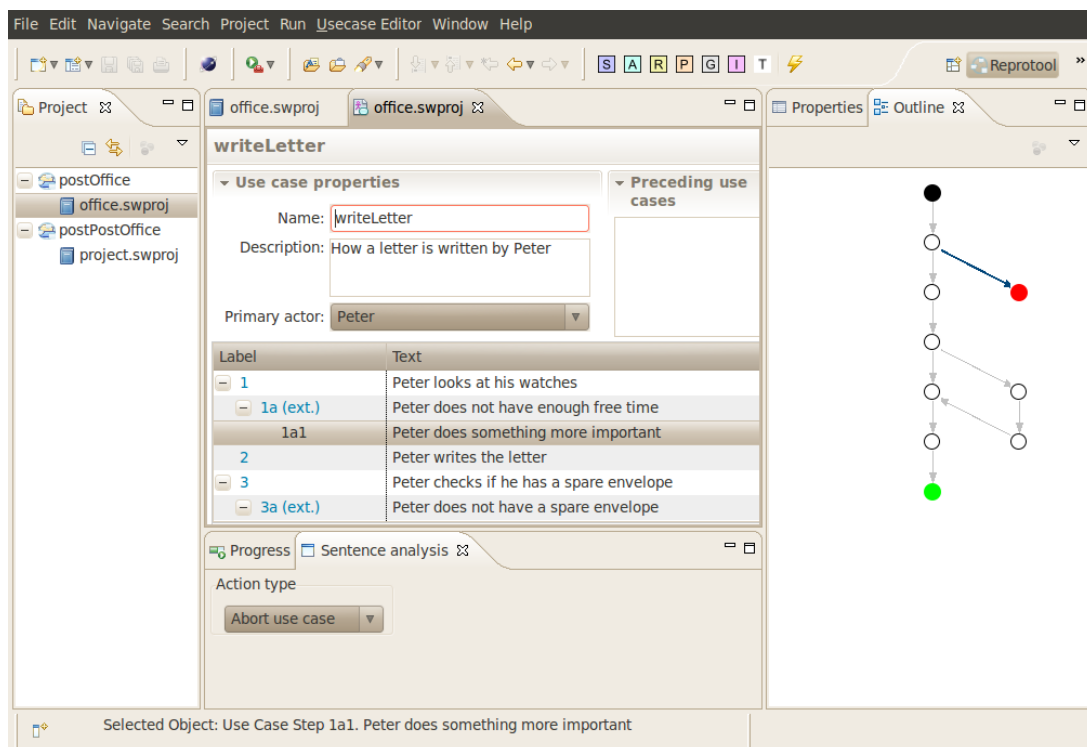
Figure 3: *Abort* use-case step action specified

Now we will define an include action for the use-case step with label *3a2*. So click this use-case step and in the *Analysis* view, select *Use case include* as the action type and select the use-cese *buyEnvelope* as the included use-case. You can view the situation in the next picture. Also notice the outline view that shows also the included use-case schema.
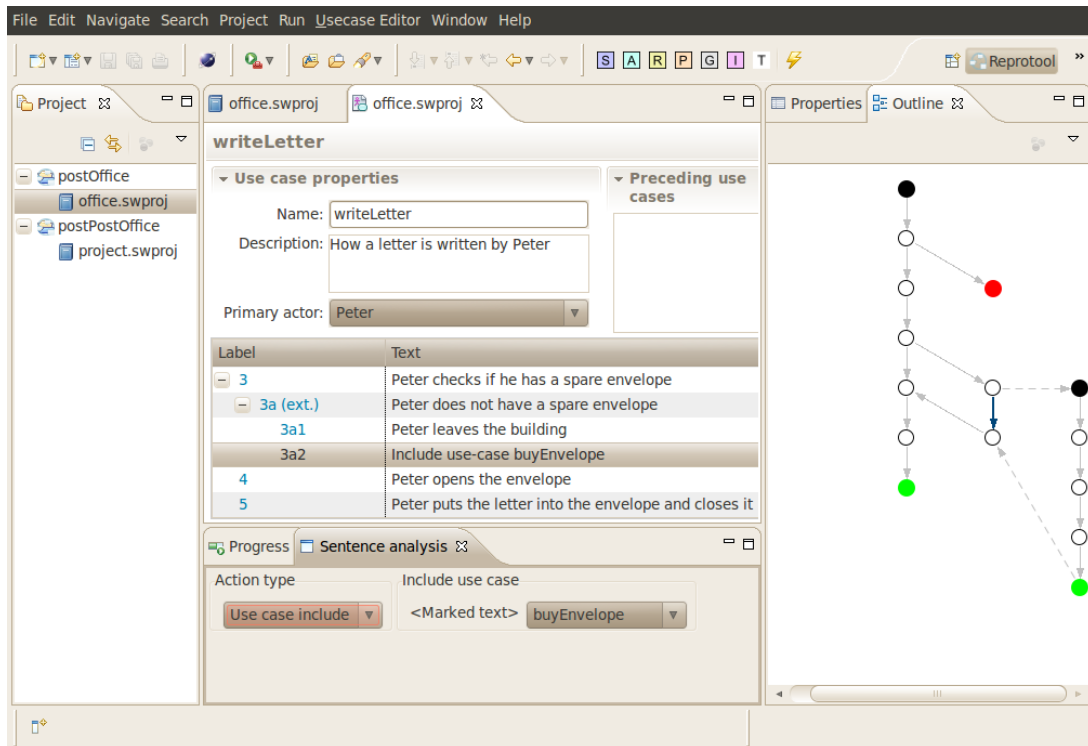

Figure 4: *Include* use-case step action specified