

DEPLOY Blocked Course

(ETH Zurich 9-11 April, 2008)

Exercise Sheet 3: Development of an Access Control System

Description of Work

Take the requirement document that you have written in the first exercise and accordingly develop the system using the Rodin Platform. Here are the few key points that you need to look out for.

- Determine clearly the refinement strategy that you will take.
- Requirement tracing is important (i.e. make clear how the requirements are ensured in the model).
- Your Event-B model might help you to improve your requirement document.

You should work with your original group from the first exercise.

Solution:

The development is the Rodin Platform archive in mini-doors.zip. Below are the refinement strategy that is taken.

- In the initial specification, the location of people inside the building is introduced. In this abstract model, people can enter and leave the building via the hallway and moving between rooms (i.e. there is no constraints about doors or authorisations yet). This relates to requirements EQP1, EQP2, FUN1, FUN2.
- In the first refinement, the concept of doors connecting rooms are introduced. People now can only move between rooms that are connected with each other. This relates to requirements EQP3, EQP4, EQP5, EQP6, FUN1, FUN2.
- In the second refinement, the authorisations are introduced. People can only move to rooms where they have the authorisation to be in that room. This relates to requirements FUN2, FUN3, SAF1.