EECS3342 — Report Template
Put your report name here

February 10, 2018

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	First Name	Last Name	Prism Login	Signature
Student1				
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Prepare the documentation for the assignment and the project professionally.

Rodin produces Latex documentation, so this is a good method for documenting your specifications and refinements. See `https://wiki.eecs.yorku.ca/project/sel-students/p:tutorials:latex:start` for an introduction to Latex. Login at the bottom with your Prism login.

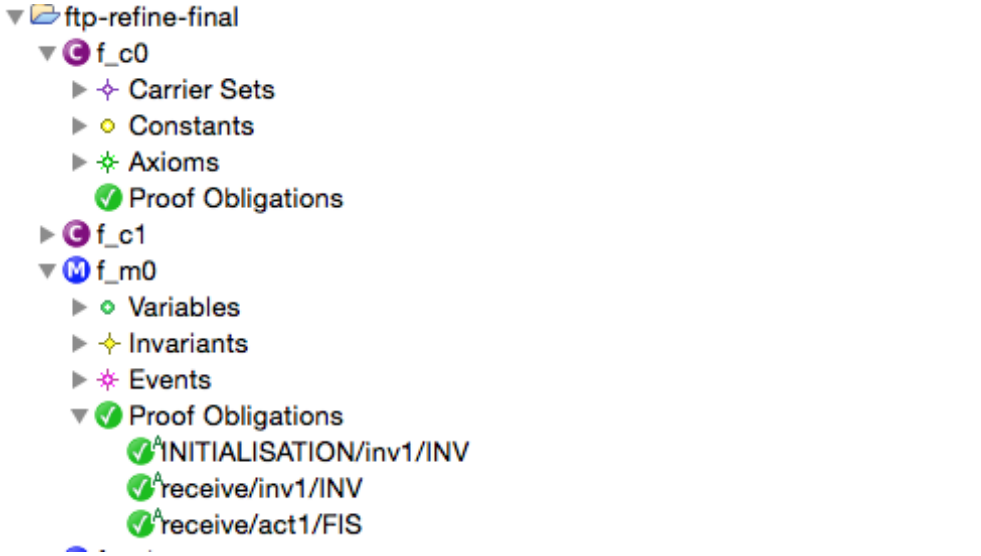
Contents

List of Figures

1 Initial model, first and second refinement

The initial model, and first and second refinement are as in the textbook. The initial model is shown in Fig. **??**.

An image of all the proofs successfully discharged for the initial model is provided below:



Student: the above is just to help you structure your document in Latex. You must document the complete specification and refinement including contexts, machines and any E and R descriptions. Explain in the text the idea behind each refinement

2 Importing PDF pages

This is how you import PDF pages (perhaps generated by the Latex Plugin of Rodin). PDF pages start from the next page

An Event-B Specification of c0
Creation Date: 26Jan2016 @ 10:15:13 PM

CONTEXT c0
CONSTANTS

d
AXIOMS

axm1 : $d \in \mathbb{N}$

maximum number of cars on bridge

axm2 : $d > 0$
END

An Event-B Specification of m0
Creation Date: 26Jan2016 @ 10:15:13 PM

MACHINE m0
SEES c0
VARIABLES

n
INVARIANTS

inv1 : $n \in \mathbb{N}$
inv2 : $n \leq d$
limit number of cars on bridge
inv3 : $n < d \lor 0 < n$
EVENTS
Initialisation
begin
act1 : $n := 0$
end
Event *ML_out* $\widehat{=}$
when
grd1 : $n < d$
then
act1 : $n := n + 1$
end
Event *ML_in* $\widehat{=}$
when
grd1 : $0 < n$
then
act1 : $n := n - 1$
end
END

An Event-B Specification of m1
Creation Date: 26Jan2016 @ 10:15:13 PM

MACHINE m1
REFINES m0
SEES c0
VARIABLES

a

b

c

INVARIANTS

inv1 : $a \in \mathbb{N}$
inv2 : $b \in \mathbb{N}$
inv3 : $c \in \mathbb{N}$
inv4 : $a + b + c = n$
glue invariant
inv5 : $a = 0 \lor c = 0$
one way bridge

EVENTS
Initialisation
begin

act1 : $a := 0$
act2 : $b := 0$
act3 : $c := 0$

end
Event *ML_out* $\widehat{=}$
refines *ML_out*
when

grd1 : $a + b < d$
grd2 : $c = 0$

then

act1 : $a := a + 1$

end
Event *ML_in* $\widehat{=}$
refines *ML_in*
when

grd1 : $0 < c$

then

act1 : $c := c - 1$

end
END

3 Third refinement to complete the implementation of the final event